
Appendix B: Water Quality Calibration and Validation for the Floyds Fork Watershed

Table of Contents

TABLE OF CONTENTS	0
LIST OF FIGURES	1
LIST OF TABLES	8

List of Figures

Figure B-1	USGS Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model	11
Figure B-2	Modeled vs. Observed TEMP (°C) at 03297830	12
Figure B-3	Modeled vs. Observed DO (mg/l) at 03297830	12
Figure B-4	Modeled vs. Observed BOD5 (mg/l) at 03297830	13
Figure B-5	Modeled vs. Observed TN_GQ at 03297830	13
Figure B-6	Modeled vs. Observed TP_GQ at 03297830	14
Figure B-7	Modeled vs. Observed TSS (mg/l) at 03297830	14
Figure B-8	Modeled vs. Observed Load TN_GQ at 03297830	15
Figure B-9	Modeled vs. Observed Load TN_GQ at 03297830	15
Figure B-10	Modeled vs. Observed Load TP_GQ at 03297830	17
Figure B-11	Modeled vs. Observed Load TP_GQ at 03297830	17
Figure B-12	Modeled vs. Observed TEMP (°C) at 03297845	19
Figure B-13	Modeled vs. Observed DO (mg/l) at 03297845	19
Figure B-14	Modeled vs. Observed BOD5 (mg/l) at 03297845	20
Figure B-15	Modeled vs. Observed TN_GQ at 03297845	20
Figure B-16	Modeled vs. Observed TP_GQ at 03297845	21
Figure B-17	Modeled vs. Observed TSS (mg/l) at 03297845	21
Figure B-18	Modeled vs. Observed Load TN_GQ at 03297845	22
Figure B-19	Modeled vs. Observed Load TN_GQ at 03297845	22
Figure B-20	Modeled vs. Observed Load TP_GQ at 03297845	24
Figure B-21	Modeled vs. Observed Load TP_GQ at 03297845	24
Figure B-22	Modeled vs. Observed TEMP (°C) at 03297850	26
Figure B-23	Modeled vs. Observed DO (mg/l) at 03297850	26
Figure B-24	Modeled vs. Observed BOD5 (mg/l) at 03297850	27
Figure B-25	Modeled vs. Observed TN_GQ at 03297850	27
Figure B-26	Modeled vs. Observed TP_GQ at 03297850	28
Figure B-27	Modeled vs. Observed TSS (mg/l) at 03297850	28
Figure B-28	Modeled vs. Observed Load TN_GQ at 03297850	29
Figure B-29	Modeled vs. Observed Load TN_GQ at 03297850	29
Figure B-30	Modeled vs. Observed Load TP_GQ at 03297850	31
Figure B-31	Modeled vs. Observed Load TP_GQ at 03297850	31
Figure B-32	Modeled vs. Observed TEMP (°C) at 03297855	33
Figure B-33	Modeled vs. Observed DO (mg/l) at 03297855	33
Figure B-34	Modeled vs. Observed BOD5 (mg/l) at 03297855	34
Figure B-35	Modeled vs. Observed TN_GQ at 03297855	34
Figure B-36	Modeled vs. Observed TP_GQ at 03297855	35
Figure B-37	Modeled vs. Observed TSS (mg/l) at 03297855	35
Figure B-38	Modeled vs. Observed Load TN_GQ at 03297855	36
Figure B-39	Modeled vs. Observed Load TN_GQ at 03297855	36
Figure B-40	Modeled vs. Observed Load TP_GQ at 03297855	38
Figure B-41	Modeled vs. Observed Load TP_GQ at 03297855	38
Figure B-42	Modeled vs. Observed TEMP (°C) at 03297860	40
Figure B-43	Modeled vs. Observed DO (mg/l) at 03297860	40
Figure B-44	Modeled vs. Observed BOD5 (mg/l) at 03297860	41
Figure B-45	Modeled vs. Observed TN_GQ at 03297860	41
Figure B-46	Modeled vs. Observed TP_GQ at 03297860	42
Figure B-47	Modeled vs. Observed TSS (mg/l) at 03297860	42

Figure B-48	Modeled vs. Observed Load TN_GQ at 03297860	43
Figure B-49	Modeled vs. Observed Load TN_GQ at 03297860	43
Figure B-50	Modeled vs. Observed Load TP_GQ at 03297860	45
Figure B-51	Modeled vs. Observed Load TP_GQ at 03297860	45
Figure B-52	Modeled vs. Observed TEMP (°C) at 03297875	47
Figure B-53	Modeled vs. Observed DO (mg/l) at 03297875	47
Figure B-54	Modeled vs. Observed BOD5 (mg/l) at 03297875	48
Figure B-55	Modeled vs. Observed TN_GQ at 03297875.....	48
Figure B-56	Modeled vs. Observed TP_GQ at 03297875	49
Figure B-57	Modeled vs. Observed TSS (mg/l) at 03297875.....	49
Figure B-58	Modeled vs. Observed Load TN_GQ at 03297875	50
Figure B-59	Modeled vs. Observed Load TN_GQ at 03297875	50
Figure B-60	Modeled vs. Observed Load TP_GQ at 03297875	52
Figure B-61	Modeled vs. Observed Load TP_GQ at 03297875	52
Figure B-62	Modeled vs. Observed TEMP (°C) at 03297880	54
Figure B-63	Modeled vs. Observed DO (mg/l) at 03297880.....	54
Figure B-64	Modeled vs. Observed BOD5 (mg/l) at 03297880	55
Figure B-65	Modeled vs. Observed TN_GQ at 03297880.....	55
Figure B-66	Modeled vs. Observed TP_GQ at 03297880	56
Figure B-67	Modeled vs. Observed TSS (mg/l) at 03297880.....	56
Figure B-68	Modeled vs. Observed Load TN_GQ at 03297880	57
Figure B-69	Modeled vs. Observed Load TN_GQ at 03297880	57
Figure B-70	Modeled vs. Observed Load TP_GQ at 03297880	59
Figure B-71	Modeled vs. Observed Load TP_GQ at 03297880	59
Figure B-72	Modeled vs. Observed TEMP (°C) at 03297900	61
Figure B-73	Modeled vs. Observed DO (mg/l) at 03297900.....	61
Figure B-74	Modeled vs. Observed BOD5 (mg/l) at 03297900	62
Figure B-75	Modeled vs. Observed TN_GQ at 03297900.....	62
Figure B-76	Modeled vs. Observed TP_GQ at 03297900	63
Figure B-77	Modeled vs. Observed TSS (mg/l) at 03297900.....	63
Figure B-78	Modeled vs. Observed Load TN_GQ at 03297900	64
Figure B-79	Modeled vs. Observed Load TN_GQ at 03297900	64
Figure B-80	Modeled vs. Observed Load TP_GQ at 03297900	66
Figure B-81	Modeled vs. Observed Load TP_GQ at 03297900	66
Figure B-82	Modeled vs. Observed TEMP (°C) at 03297930	68
Figure B-83	Modeled vs. Observed DO (mg/l) at 03297930.....	68
Figure B-84	Modeled vs. Observed BOD5 (mg/l) at 03297930	69
Figure B-85	Modeled vs. Observed TN_GQ at 03297930.....	69
Figure B-86	Modeled vs. Observed TP_GQ at 03297930	70
Figure B-87	Modeled vs. Observed TSS (mg/l) at 03297930.....	70
Figure B-88	Modeled vs. Observed Load TN_GQ at 03297930	71
Figure B-89	Modeled vs. Observed Load TN_GQ at 03297930	71
Figure B-90	Modeled vs. Observed Load TP_GQ at 03297930	73
Figure B-91	Modeled vs. Observed Load TP_GQ at 03297930	73
Figure B-92	Modeled vs. Observed TEMP (°C) at 03297950	75
Figure B-93	Modeled vs. Observed DO (mg/l) at 03297950.....	75
Figure B-94	Modeled vs. Observed BOD5 (mg/l) at 03297950	76
Figure B-95	Modeled vs. Observed TN_GQ at 03297950.....	76
Figure B-96	Modeled vs. Observed TP_GQ at 03297950	77
Figure B-97	Modeled vs. Observed TSS (mg/l) at 03297950.....	77
Figure B-98	Modeled vs. Observed Load TN_GQ at 03297950	78

Figure B-99	Modeled vs. Observed Load TN_GQ at 03297950	78
Figure B-100	Modeled vs. Observed Load TP_GQ at 03297950	80
Figure B-101	Modeled vs. Observed Load TP_GQ at 03297950	80
Figure B-102	Modeled vs. Observed TEMP (°C) at 03297975	82
Figure B-103	Modeled vs. Observed DO (mg/l) at 03297975	82
Figure B-104	Modeled vs. Observed BOD5 (mg/l) at 03297975	83
Figure B-105	Modeled vs. Observed TN_GQ at 03297975.....	83
Figure B-106	Modeled vs. Observed TP_GQ at 03297975	84
Figure B-107	Modeled vs. Observed TSS (mg/l) at 03297975	84
Figure B-108	Modeled vs. Observed Load TN_GQ at 03297975	85
Figure B-109	Modeled vs. Observed Load TN_GQ at 03297975	85
Figure B-110	Modeled vs. Observed Load TP_GQ at 03297975	87
Figure B-111	Modeled vs. Observed Load TP_GQ at 03297975	87
Figure B-112	Modeled vs. Observed TEMP (°C) at 03297980	89
Figure B-113	Modeled vs. Observed DO (mg/l) at 03297980	89
Figure B-114	Modeled vs. Observed BOD5 (mg/l) at 03297980	90
Figure B-115	Modeled vs. Observed TN_GQ at 03297980.....	90
Figure B-116	Modeled vs. Observed TP_GQ at 03297980	91
Figure B-117	Modeled vs. Observed TSS (mg/l) at 03297980	91
Figure B-118	Modeled vs. Observed Load TN_GQ at 03297980	92
Figure B-119	Modeled vs. Observed Load TN_GQ at 03297980	92
Figure B-120	Modeled vs. Observed Load TP_GQ at 03297980	94
Figure B-121	Modeled vs. Observed Load TP_GQ at 03297980	94
Figure B-122	Modeled vs. Observed TEMP (°C) at 03298000	96
Figure B-123	Modeled vs. Observed DO (mg/l) at 03298000.....	96
Figure B-124	Modeled vs. Observed BOD5 (mg/l) at 03298000	97
Figure B-125	Modeled vs. Observed TN_GQ at 03298000.....	97
Figure B-126	Modeled vs. Observed TP_GQ at 03298000	98
Figure B-127	Modeled vs. Observed TSS (mg/l) at 03298000	98
Figure B-128	Modeled vs. Observed Load TN_GQ at 03298000	99
Figure B-129	Modeled vs. Observed Load TN_GQ at 03298000	99
Figure B-130	Modeled vs. Observed Load TP_GQ at 03298000	101
Figure B-131	Modeled vs. Observed Load TP_GQ at 03298000	101
Figure B-132	Modeled vs. Observed TEMP (°C) at 03298005	103
Figure B-133	Modeled vs. Observed DO (mg/l) at 03298005.....	103
Figure B-134	Modeled vs. Observed BOD5 (mg/l) at 03298005	104
Figure B-135	Modeled vs. Observed TN_GQ at 03298005.....	104
Figure B-136	Modeled vs. Observed TP_GQ at 03298005	105
Figure B-137	Modeled vs. Observed TSS (mg/l) at 03298005	105
Figure B-138	Modeled vs. Observed Load TN_GQ at 03298005	106
Figure B-139	Modeled vs. Observed Load TN_GQ at 03298005	106
Figure B-140	Modeled vs. Observed Load TP_GQ at 03298005	108
Figure B-141	Modeled vs. Observed Load TP_GQ at 03298005	108
Figure B-142	Modeled vs. Observed TEMP (°C) at 03298020	110
Figure B-143	Modeled vs. Observed DO (mg/l) at 03298020.....	110
Figure B-144	Modeled vs. Observed BOD5 (mg/l) at 03298020	111
Figure B-145	Modeled vs. Observed TN_GQ at 03298020.....	111
Figure B-146	Modeled vs. Observed TP_GQ at 03298020	112
Figure B-147	Modeled vs. Observed TSS (mg/l) at 03298020	112
Figure B-148	Modeled vs. Observed Load TN_GQ at 03298020	113
Figure B-149	Modeled vs. Observed Load TN_GQ at 03298020	113

Figure B-150	Modeled vs. Observed Load TP_GQ at 03298020	115
Figure B-151	Modeled vs. Observed Load TP_GQ at 03298020	115
Figure B-152	Modeled vs. Observed TEMP (°C) at 03298100	117
Figure B-153	Modeled vs. Observed DO (mg/l) at 03298100.....	117
Figure B-154	Modeled vs. Observed BOD5 (mg/l) at 03298100	118
Figure B-155	Modeled vs. Observed TN_GQ at 03298100.....	118
Figure B-156	Modeled vs. Observed TP_GQ at 03298100	119
Figure B-157	Modeled vs. Observed TSS (mg/l) at 03298100.....	119
Figure B-158	Modeled vs. Observed Load TN_GQ at 03298100	120
Figure B-159	Modeled vs. Observed Load TN_GQ at 03298100	120
Figure B-160	Modeled vs. Observed Load TP_GQ at 03298100	122
Figure B-161	Modeled vs. Observed Load TP_GQ at 03298100	122
Figure B-162	Modeled vs. Observed TEMP (°C) at 03298110	124
Figure B-163	Modeled vs. Observed DO (mg/l) at 03298110.....	124
Figure B-164	Modeled vs. Observed BOD5 (mg/l) at 03298110	125
Figure B-165	Modeled vs. Observed TN_GQ at 03298110.....	125
Figure B-166	Modeled vs. Observed TP_GQ at 03298110	126
Figure B-167	Modeled vs. Observed TSS (mg/l) at 03298110.....	126
Figure B-168	Modeled vs. Observed Load TN_GQ at 03298110	127
Figure B-169	Modeled vs. Observed Load TN_GQ at 03298110	127
Figure B-170	Modeled vs. Observed Load TP_GQ at 03298110	129
Figure B-171	Modeled vs. Observed Load TP_GQ at 03298110	129
Figure B-172	Modeled vs. Observed TEMP (°C) at 03298120	131
Figure B-173	Modeled vs. Observed DO (mg/l) at 03298120.....	131
Figure B-174	Modeled vs. Observed BOD5 (mg/l) at 03298120	132
Figure B-175	Modeled vs. Observed TN_GQ at 03298120.....	132
Figure B-176	Modeled vs. Observed TP_GQ at 03298120	133
Figure B-177	Modeled vs. Observed TSS (mg/l) at 03298120.....	133
Figure B-178	Modeled vs. Observed Load TN_GQ at 03298120	134
Figure B-179	Modeled vs. Observed Load TN_GQ at 03298120	134
Figure B-180	Modeled vs. Observed Load TP_GQ at 03298120	136
Figure B-181	Modeled vs. Observed Load TP_GQ at 03298120	136
Figure B-182	Modeled vs. Observed TEMP (°C) at 03298135	138
Figure B-183	Modeled vs. Observed DO (mg/l) at 03298135.....	138
Figure B-184	Modeled vs. Observed BOD5 (mg/l) at 03298135	139
Figure B-185	Modeled vs. Observed TN_GQ at 03298135.....	139
Figure B-186	Modeled vs. Observed TP_GQ at 03298135	140
Figure B-187	Modeled vs. Observed TSS (mg/l) at 03298135.....	140
Figure B-188	Modeled vs. Observed Load TN_GQ at 03298135	141
Figure B-189	Modeled vs. Observed Load TN_GQ at 03298135	141
Figure B-190	Modeled vs. Observed Load TP_GQ at 03298135	143
Figure B-191	Modeled vs. Observed Load TP_GQ at 03298135	143
Figure B-192	Modeled vs. Observed TEMP (°C) at 03298138	145
Figure B-193	Modeled vs. Observed DO (mg/l) at 03298138.....	145
Figure B-194	Modeled vs. Observed BOD5 (mg/l) at 03298138	146
Figure B-195	Modeled vs. Observed TN_GQ at 03298138.....	146
Figure B-196	Modeled vs. Observed TP_GQ at 03298138	147
Figure B-197	Modeled vs. Observed TSS (mg/l) at 03298138.....	147
Figure B-198	Modeled vs. Observed Load TN_GQ at 03298138	148
Figure B-199	Modeled vs. Observed Load TN_GQ at 03298138	148
Figure B-200	Modeled vs. Observed Load TP_GQ at 03298138	150

Figure B-201	Modeled vs. Observed Load TP_GQ at 03298138	150
Figure B-202	Modeled vs. Observed TEMP (°C) at 03298150	152
Figure B-203	Modeled vs. Observed DO (mg/l) at 03298150	152
Figure B-204	Modeled vs. Observed BOD5 (mg/l) at 03298150	153
Figure B-205	Modeled vs. Observed TN_GQ at 03298150.....	153
Figure B-206	Modeled vs. Observed TP_GQ at 03298150	154
Figure B-207	Modeled vs. Observed TSS (mg/l) at 03298150.....	154
Figure B-208	Modeled vs. Observed Load TN_GQ at 03298150	155
Figure B-209	Modeled vs. Observed Load TN_GQ at 03298150	155
Figure B-210	Modeled vs. Observed Load TP_GQ at 03298150.....	157
Figure B-211	Modeled vs. Observed Load TP_GQ at 03298150	157
Figure B-212	Modeled vs. Observed TEMP (°C) at 03298160	159
Figure B-213	Modeled vs. Observed DO (mg/l) at 03298160.....	159
Figure B-214	Modeled vs. Observed BOD5 (mg/l) at 03298160	160
Figure B-215	Modeled vs. Observed TN_GQ at 03298160.....	160
Figure B-216	Modeled vs. Observed TP_GQ at 03298160	161
Figure B-217	Modeled vs. Observed TSS (mg/l) at 03298160.....	161
Figure B-218	Modeled vs. Observed Load TN_GQ at 03298160	162
Figure B-219	Modeled vs. Observed Load TN_GQ at 03298160	162
Figure B-220	Modeled vs. Observed Load TP_GQ at 03298160.....	164
Figure B-221	Modeled vs. Observed Load TP_GQ at 03298160	164
Figure B-222	Modeled vs. Observed TEMP (°C) at 03298200	166
Figure B-223	Modeled vs. Observed DO (mg/l) at 03298200.....	166
Figure B-224	Modeled vs. Observed BOD5 (mg/l) at 03298200	167
Figure B-225	Modeled vs. Observed TN_GQ at 03298200.....	167
Figure B-226	Modeled vs. Observed TP_GQ at 03298200	168
Figure B-227	Modeled vs. Observed TSS (mg/l) at 03298200.....	168
Figure B-228	Modeled vs. Observed Load TN_GQ at 03298200	169
Figure B-229	Modeled vs. Observed Load TN_GQ at 03298200	169
Figure B-230	Modeled vs. Observed Load TP_GQ at 03298200.....	171
Figure B-231	Modeled vs. Observed Load TP_GQ at 03298200	171
Figure B-232	Modeled vs. Observed TEMP (°C) at 03298250	173
Figure B-233	Modeled vs. Observed DO (mg/l) at 03298250.....	173
Figure B-234	Modeled vs. Observed BOD5 (mg/l) at 03298250	174
Figure B-235	Modeled vs. Observed TN_GQ at 03298250.....	174
Figure B-236	Modeled vs. Observed TP_GQ at 03298250	175
Figure B-237	Modeled vs. Observed TSS (mg/l) at 03298250.....	175
Figure B-238	Modeled vs. Observed Load TN_GQ at 03298250	176
Figure B-239	Modeled vs. Observed Load TN_GQ at 03298250	176
Figure B-240	Modeled vs. Observed Load TP_GQ at 03298250.....	178
Figure B-241	Modeled vs. Observed Load TP_GQ at 03298250	178
Figure B-242	Modeled vs. Observed TEMP (°C) at 03298300	180
Figure B-243	Modeled vs. Observed DO (mg/l) at 03298300.....	180
Figure B-244	Modeled vs. Observed BOD5 (mg/l) at 03298300	181
Figure B-245	Modeled vs. Observed TN_GQ at 03298300.....	181
Figure B-246	Modeled vs. Observed TP_GQ at 03298300	182
Figure B-247	Modeled vs. Observed TSS (mg/l) at 03298300.....	182
Figure B-248	Modeled vs. Observed Load TN_GQ at 03298300	183
Figure B-249	Modeled vs. Observed Load TN_GQ at 03298300	183
Figure B-250	Modeled vs. Observed Load TP_GQ at 03298300	185
Figure B-251	Modeled vs. Observed Load TP_GQ at 03298300	185

Figure B-252	Modeled vs. Observed TEMP (°C) at 03298470	187
Figure B-253	Modeled vs. Observed DO (mg/l) at 03298470.....	187
Figure B-254	Modeled vs. Observed BOD5 (mg/l) at 03298470	188
Figure B-255	Modeled vs. Observed TN_GQ at 03298470.....	188
Figure B-256	Modeled vs. Observed TP_GQ at 03298470	189
Figure B-257	Modeled vs. Observed TSS (mg/l) at 03298470.....	189
Figure B-258	Modeled vs. Observed Load TN_GQ at 03298470	190
Figure B-259	Modeled vs. Observed Load TN_GQ at 03298470	190
Figure B-260	Modeled vs. Observed Load TP_GQ at 03298470	192
Figure B-261	Modeled vs. Observed Load TP_GQ at 03298470	192
Figure B-262	USGS Water Quality for TN in the Floyds Fork Watershed	195
Figure B-263	USGS Water Quality for TP in the Floyds Fork Watershed.....	196
Figure B-260	MSD Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model	198
Figure B-261	Modeled vs. Observed TEMP (°C) at EFFFF001.....	199
Figure B-262	Modeled vs. Observed DO (mg/l) at EFFFF001	199
Figure B-263	Modeled vs. Observed BOD5 (mg/l) at EFFFF001	200
Figure B-264	Modeled vs. Observed TN_GQ at EFFFF001	200
Figure B-265	Modeled vs. Observed TP_GQ at EFFFF001	201
Figure B-266	Modeled vs. Observed TSS (mg/l) at EFFFF001	201
Figure B-267	Modeled vs. Observed Load TN_GQ at EFFFF001	202
Figure B-268	Modeled vs. Observed Load TN_GQ at EFFFF001	202
Figure B-269	Modeled vs. Observed Load TP_GQ at EFFFF001.....	204
Figure B-270	Modeled vs. Observed Load TP_GQ at EFFFF001.....	204
Figure B-271	Modeled vs. Observed TEMP (°C) at EFFFF002.....	206
Figure B-272	Modeled vs. Observed DO (mg/l) at EFFFF002	206
Figure B-273	Modeled vs. Observed BOD5 (mg/l) at EFFFF002	207
Figure B-274	Modeled vs. Observed TN_GQ at EFFFF002	207
Figure B-275	Modeled vs. Observed TP_GQ at EFFFF002	208
Figure B-276	Modeled vs. Observed TSS (mg/l) at EFFFF002	208
Figure B-277	Modeled vs. Observed Load TN_GQ at EFFFF002	209
Figure B-278	Modeled vs. Observed Load TN_GQ at EFFFF002	209
Figure B-279	Modeled vs. Observed Load TP_GQ at EFFFF002.....	211
Figure B-280	Modeled vs. Observed Load TP_GQ at EFFFF002.....	211
Figure B-281	Modeled vs. Observed TEMP (°C) at EFFFF003.....	213
Figure B-282	Modeled vs. Observed DO (mg/l) at EFFFF003	213
Figure B-283	Modeled vs. Observed BOD5 (mg/l) at EFFFF003	214
Figure B-284	Modeled vs. Observed TN_GQ at EFFFF003	214
Figure B-285	Modeled vs. Observed TP_GQ at EFFFF003	215
Figure B-286	Modeled vs. Observed TSS (mg/l) at EFFFF003	215
Figure B-287	Modeled vs. Observed Load TN_GQ at EFFFF003	216
Figure B-288	Modeled vs. Observed Load TN_GQ at EFFFF003	216
Figure B-289	Modeled vs. Observed Load TP_GQ at EFFFF003.....	218
Figure B-290	Modeled vs. Observed Load TP_GQ at EFFFF003.....	218
Figure B-291	Modeled vs. Observed TEMP (°C) at EFFCR001	220
Figure B-292	Modeled vs. Observed DO (mg/l) at EFFCR001.....	220
Figure B-293	Modeled vs. Observed BOD5 (mg/l) at EFFCR001	221
Figure B-294	Modeled vs. Observed TN_GQ at EFFCR001	221
Figure B-295	Modeled vs. Observed TP_GQ at EFFCR001	222
Figure B-296	Modeled vs. Observed TSS (mg/l) at EFFCR001.....	222
Figure B-297	Modeled vs. Observed Load TN_GQ at EFFCR001	223

Figure B-298	Modeled vs. Observed Load TN_GQ at EFFCR001	223
Figure B-299	Modeled vs. Observed Load TP_GQ at EFFCR001	225
Figure B-300	Modeled vs. Observed Load TP_GQ at EFFCR001	225
Figure B-301	Modeled vs. Observed TEMP (°C) at EFFCR002	227
Figure B-302	Modeled vs. Observed DO (mg/l) at EFFCR002	227
Figure B-303	Modeled vs. Observed BOD5 (mg/l) at EFFCR002	228
Figure B-304	Modeled vs. Observed TN_GQ at EFFCR002	228
Figure B-305	Modeled vs. Observed TP_GQ at EFFCR002	229
Figure B-306	Modeled vs. Observed TSS (mg/l) at EFFCR002	229
Figure B-307	Modeled vs. Observed Load TN_GQ at EFFCR002	230
Figure B-308	Modeled vs. Observed Load TN_GQ at EFFCR002	230
Figure B-309	Modeled vs. Observed Load TP_GQ at EFFCR002	232
Figure B-310	Modeled vs. Observed Load TP_GQ at EFFCR002	232
Figure B-311	MSD Water Quality for TN in the Floyds Fork Watershed	235
Figure B-312	MSD Water Quality for TP in the Floyds Fork Watershed	236

List of Tables

Table B-1	LSPC Watershed Water Quality Calibration Stations	10
Table B-2	Modeled vs. Observed Load TN_GQ at 03297830	16
Table B-3	Modeled vs. Observed Load TP_GQ at 03297830	18
Table B-4	Modeled vs. Observed Load TN_GQ at 03297845	23
Table B-5	Modeled vs. Observed Load TP_GQ at 03297845	25
Table B-6	Modeled vs. Observed Load TN_GQ at 03297850	30
Table B-7	Modeled vs. Observed Load TP_GQ at 03297850	32
Table B-8	Modeled vs. Observed Load TN_GQ at 03297855	37
Table B-9	Modeled vs. Observed Load TP_GQ at 03297855	39
Table B-10	Modeled vs. Observed Load TN_GQ at 03297860	44
Table B-11	Modeled vs. Observed Load TP_GQ at 03297860	46
Table B-12	Modeled vs. Observed Load TN_GQ at 03297875	51
Table B-13	Modeled vs. Observed Load TP_GQ at 03297875	53
Table B-14	Modeled vs. Observed Load TN_GQ at 03297880	58
Table B-15	Modeled vs. Observed Load TP_GQ at 03297880	60
Table B-16	Modeled vs. Observed Load TN_GQ at 03297900	65
Table B-17	Modeled vs. Observed Load TP_GQ at 03297900	67
Table B-18	Modeled vs. Observed Load TN_GQ at 03297930	72
Table B-19	Modeled vs. Observed Load TP_GQ at 03297930	74
Table B-20	Modeled vs. Observed Load TN_GQ at 03297950	79
Table B-21	Modeled vs. Observed Load TP_GQ at 03297950	81
Table B-22	Modeled vs. Observed Load TN_GQ at 03297975	86
Table B-23	Modeled vs. Observed Load TP_GQ at 03297975	88
Table B-24	Modeled vs. Observed Load TN_GQ at 03297980	93
Table B-25	Modeled vs. Observed Load TP_GQ at 03297980	95
Table B-26	Modeled vs. Observed Load TN_GQ at 03298000	100
Table B-27	Modeled vs. Observed Load TP_GQ at 03298000	102
Table B-28	Modeled vs. Observed Load TN_GQ at 03298005	107
Table B-29	Modeled vs. Observed Load TP_GQ at 03298005	109
Table B-30	Modeled vs. Observed Load TN_GQ at 03298020	114
Table B-31	Modeled vs. Observed Load TP_GQ at 03298020	116
Table B-32	Modeled vs. Observed Load TN_GQ at 03298100	121
Table B-33	Modeled vs. Observed Load TP_GQ at 03298100	123
Table B-34	Modeled vs. Observed Load TN_GQ at 03298110	128
Table B-35	Modeled vs. Observed Load TP_GQ at 03298110	130
Table B-36	Modeled vs. Observed Load TN_GQ at 03298120	135
Table B-37	Modeled vs. Observed Load TP_GQ at 03298120	137
Table B-38	Modeled vs. Observed Load TN_GQ at 03298135	142
Table B-39	Modeled vs. Observed Load TP_GQ at 03298135	144
Table B-40	Modeled vs. Observed Load TN_GQ at 03298138	149
Table B-41	Modeled vs. Observed Load TP_GQ at 03298138	151
Table B-42	Modeled vs. Observed Load TN_GQ at 03298150	156
Table B-43	Modeled vs. Observed Load TP_GQ at 03298150	158
Table B-44	Modeled vs. Observed Load TN_GQ at 03298160	163
Table B-45	Modeled vs. Observed Load TP_GQ at 03298160	165
Table B-46	Modeled vs. Observed Load TN_GQ at 03298200	170
Table B-47	Modeled vs. Observed Load TP_GQ at 03298200	172
Table B-48	Modeled vs. Observed Load TN_GQ at 03298250	177

Table B-49	Modeled vs. Observed Load TP_GQ at 03298250	179
Table B-50	Modeled vs. Observed Load TN_GQ at 03298300	184
Table B-51	Modeled vs. Observed Load TP_GQ at 03298300	186
Table B-52	Modeled vs. Observed Load TN_GQ at 03298470	191
Table B-53	Modeled vs. Observed Load TP_GQ at 03298470	193
Table B-54	Summary Qualitative and Quantitative scores for the USGS Water Quality Calibration stations	194
Table B-55	LSPC Watershed Water Quality Validation Stations	197
Table B-54	Modeled vs. Observed Load TN_GQ at EFFFF001	203
Table B-55	Modeled vs. Observed Load TP_GQ at EFFFF001.....	205
Table B-56	Modeled vs. Observed Load TN_GQ at EFFFF002	210
Table B-57	Modeled vs. Observed Load TP_GQ at EFFFF002.....	212
Table B-58	Modeled vs. Observed Load TN_GQ at EFFFF003	217
Table B-59	Modeled vs. Observed Load TP_GQ at EFFFF003.....	219
Table B-60	Modeled vs. Observed Load TN_GQ at EFFCR001	224
Table B-61	Modeled vs. Observed Load TP_GQ at EFFCR001.....	226
Table B-62	Modeled vs. Observed Load TN_GQ at EFFCR002	231
Table B-63	Modeled vs. Observed Load TP_GQ at EFFCR002.....	233
Table B-64	Summary Qualitative and Quantitative scores for the MSD Water Quality Validation stations	234

Table B-1 LSPC Watershed Water Quality Calibration Stations

Station	Agency	Site Name	USGS Drainage Area (mi ²)	USGS Drainage Area (acres)	LSPC Watershed	LSPC Drainage Area (acres)	Type	Parameter
03297830	USGS	Floyds Fork at Highway 53	20	12736	244	12095	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297845	USGS	Floyds Fork near Crestwood	47	29888	229	29772	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297850	USGS	South Fork Curry's Fork at Moody Lane	1	742	220	689	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297855	USGS	South Fork Curry's Fork at Highway 393	9	5939	215	4707	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297860	USGS	North Fork Curry's Fork at Stone Ridge road	10	6464	210	6464	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297875	USGS	Ashers Run at Abbott lane near Crestwood	3	2150	225	1812	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297880	USGS	Currys Fork near Crestwood	29	18240	617	18202	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297900	USGS	Floyds Fork near Pee wee Valley	80	51136	615	53084	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297930	USGS	Floyds Fork at Echo trail bridge	104	66560	185	66898	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297950	USGS	Long Run at Old stage coach road	6	3571	263	3549	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297975	USGS	South Long Run at Hobbs Lane	8	4890	274	4341	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03297980	USGS	Long Run near Fisherville	23	14400	250	15297	Calibration	TEMP, DO, BOD5, TN, TP, TGS
03298000	USGS	Floyds Fork at Fisherville	138	88320	180	88803	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298005	USGS	Pope lick at South popee lick road near Fisherville	10	6202	174	6196	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298020	USGS	Chenoweth Run at Gelhaus Lane	14	9088	283	8954	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298100	USGS	Pope lick at pope lick road near Middletown	3	1856	178	1894	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298110	USGS	Pope lick at Rehl road near Fisherville	1	958	176	869	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298120	USGS	Floyds Fork at Seatonville Road	172	110080	169	110308	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298135	USGS	Chenoweth Run at Rucknigal Parkway	5	3501	167	3449	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298138	USGS	Chenoweth Run at Jeffersontown STP at Jeffersontown	6	4096	610	4009	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298150	USGS	Chenoweth Run at Gelhaus Lane near Fern creek	12	7424	609	8176	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298160	USGS	Chenoweth Run at Seatonville road near Jeffersontown	17	10707	158	10689	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298200	USGS	Floyds Fork near Mt. Washington	213	136320	606	137052	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298250	USGS	Cedar Creek at Thixton Road	11	7104	134	7212	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298300	USGS	Pennsylvania Run at Mt. Washington	6	4096	130	4182	Calibration	TEMP, DO, BOD5, TN, TP, TSS
03298470	USGS	Floyds Fork near Shepherdsville	283	181120	102	182087	Calibration	TEMP, DO, BOD5, TN, TP, TSS

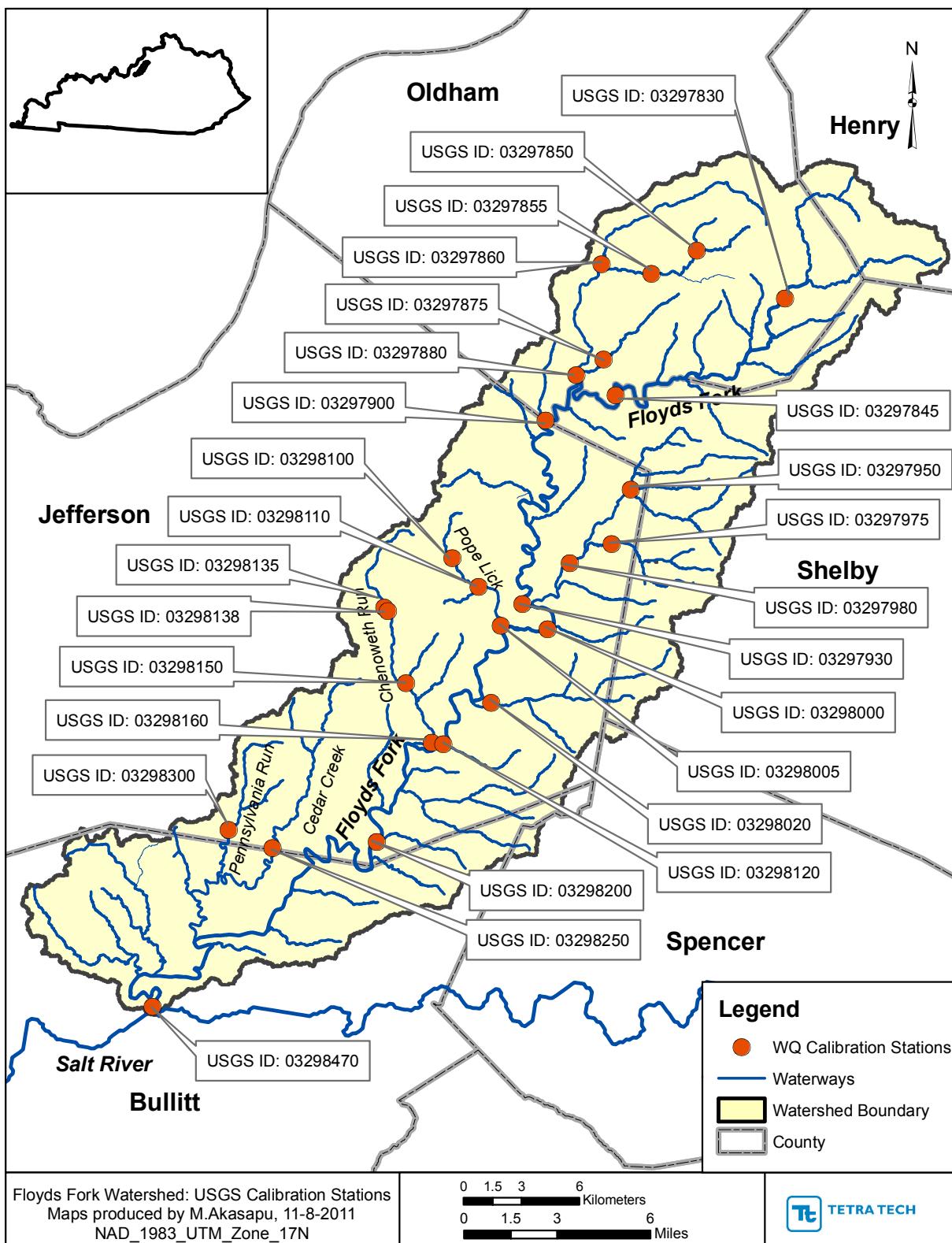


Figure B-1 USGS Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model

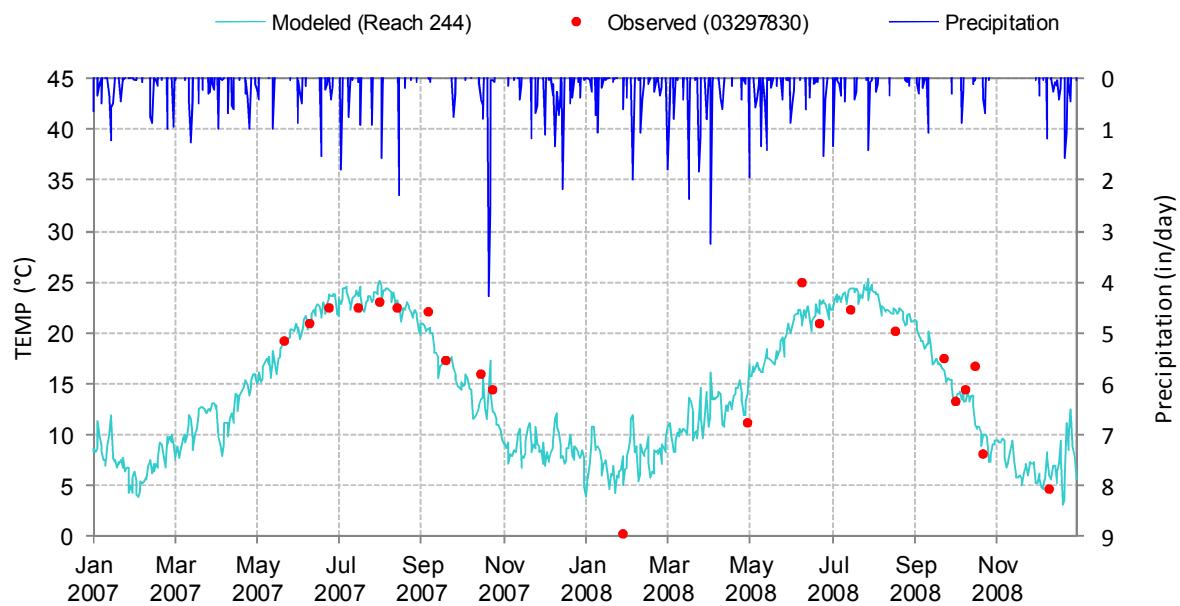


Figure B-2 Modeled vs. Observed TEMP (°C) at 03297830

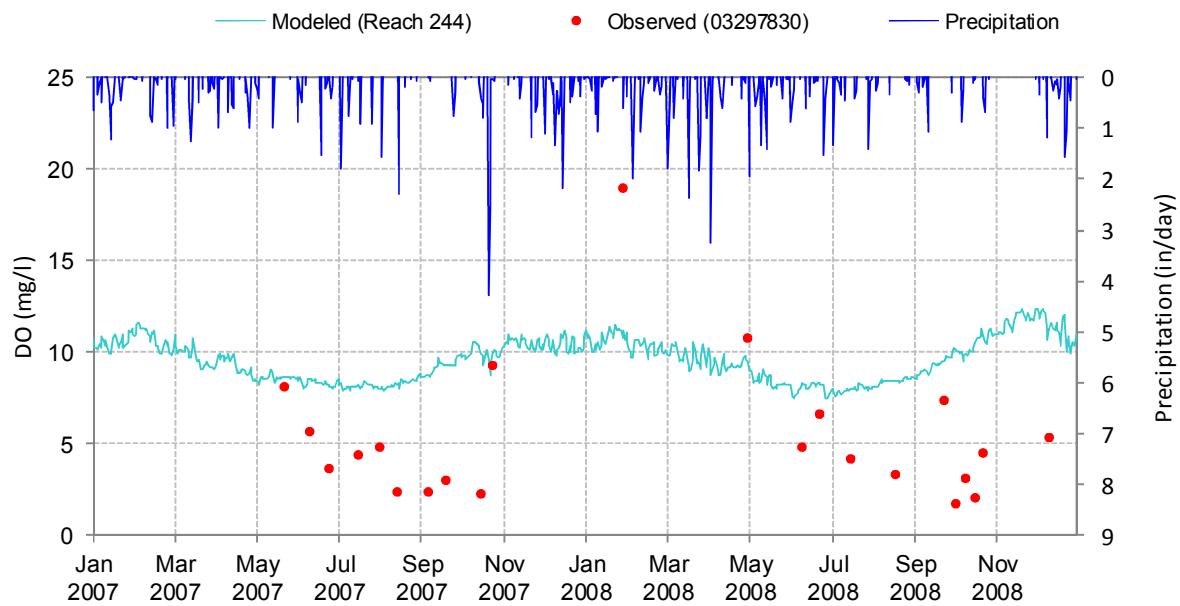


Figure B-3 Modeled vs. Observed DO (mg/l) at 03297830

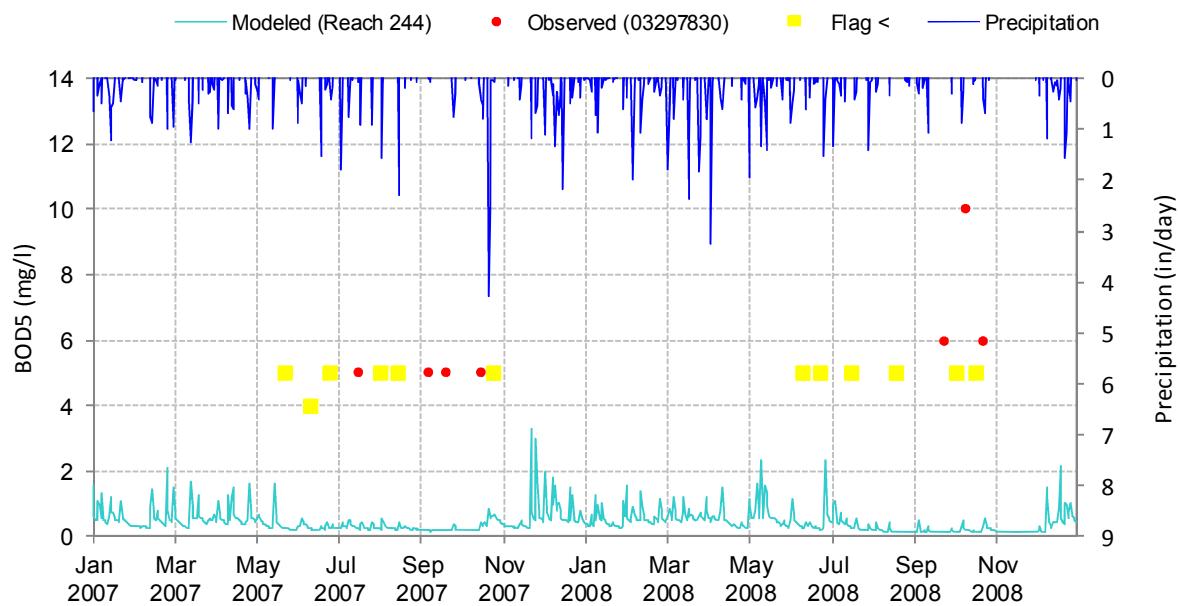


Figure B-4 Modeled vs. Observed BOD5 (mg/l) at 03297830

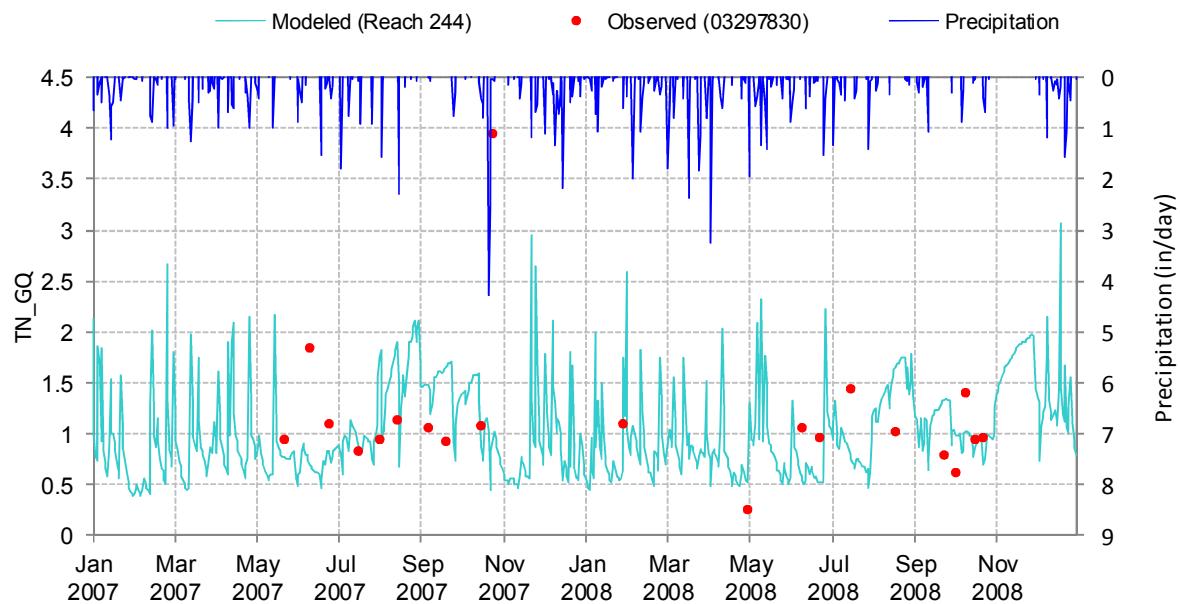


Figure B-5 Modeled vs. Observed TN_GQ at 03297830

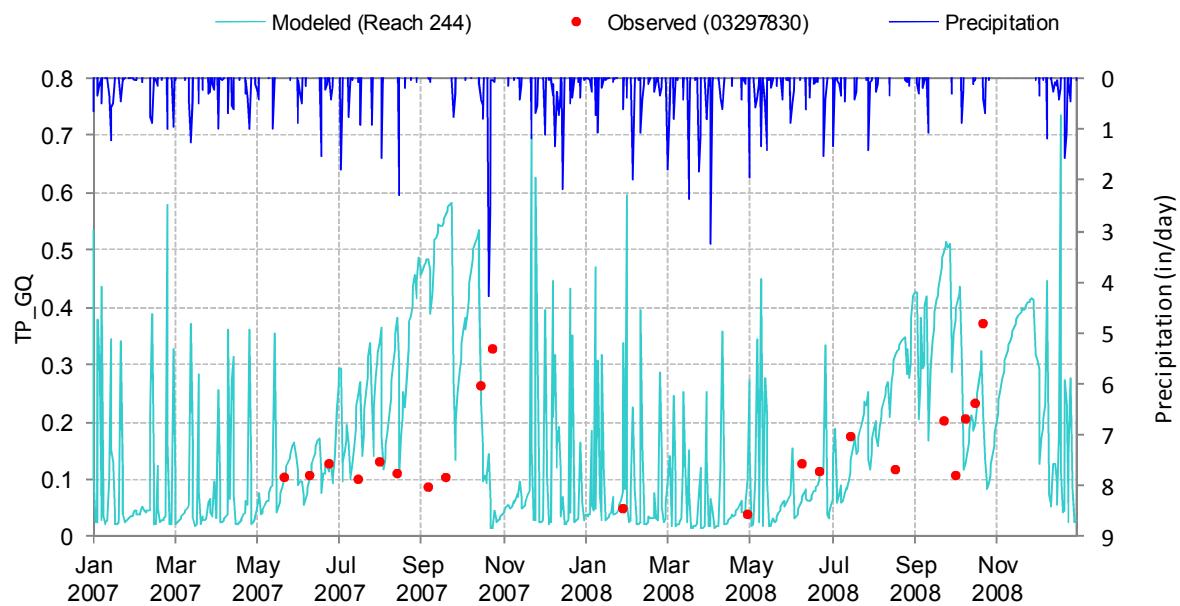


Figure B-6 Modeled vs. Observed TP_GQ at 03297830

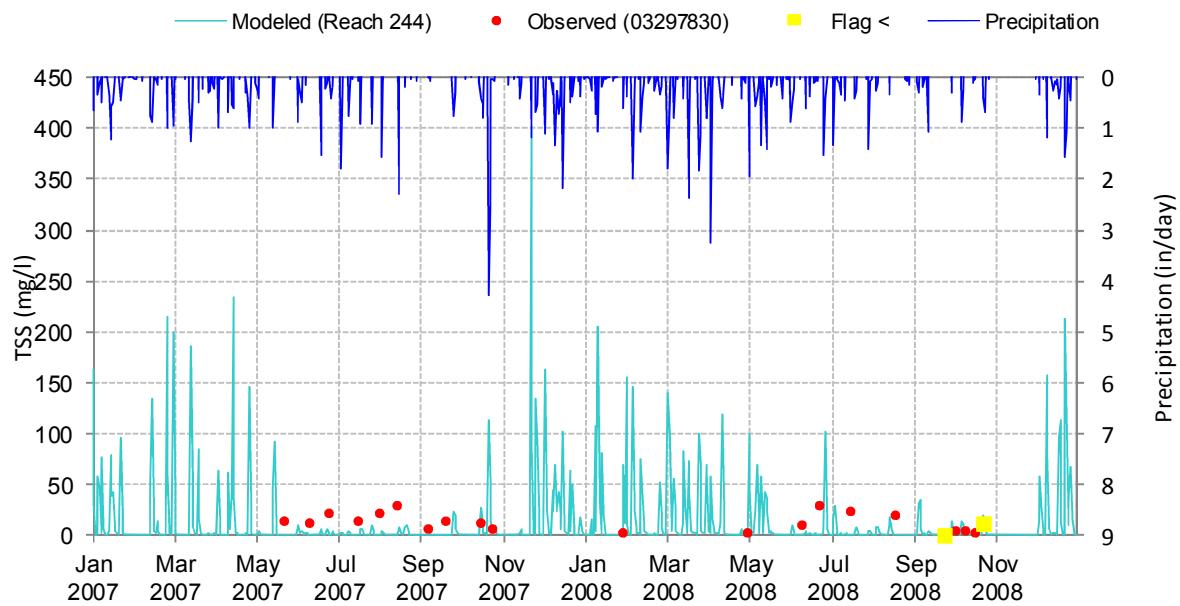


Figure B-7 Modeled vs. Observed TSS (mg/l) at 03297830

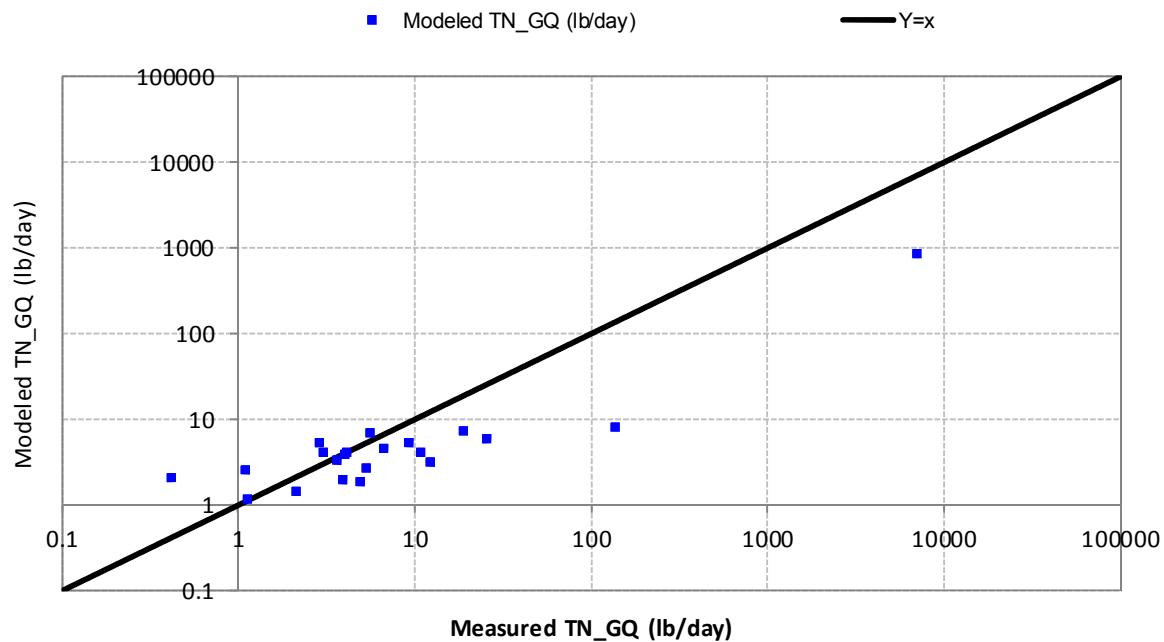


Figure B-8 Modeled vs. Observed Load TN_GQ at 03297830

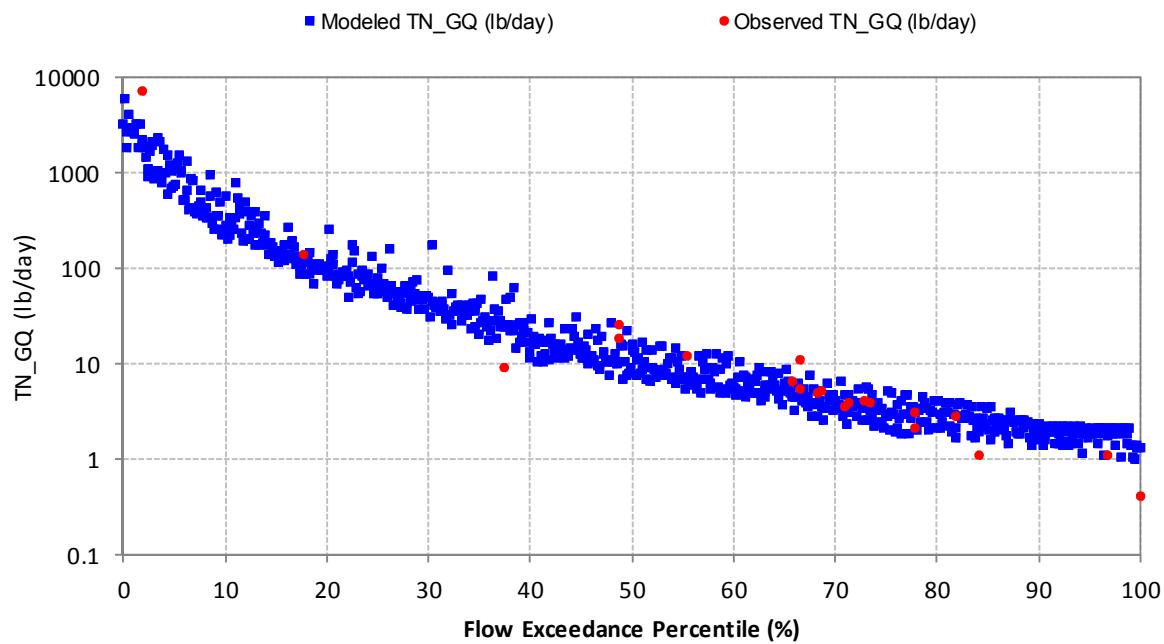


Figure B-9 Modeled vs. Observed Load TN_GQ at 03297830

Table B-2 Modeled vs. Observed Load TN_GQ at 03297830

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	57,161	115,920		-50.69	97,909	-41.62
2008	63,817	85,810		-25.63	55,559	14.87

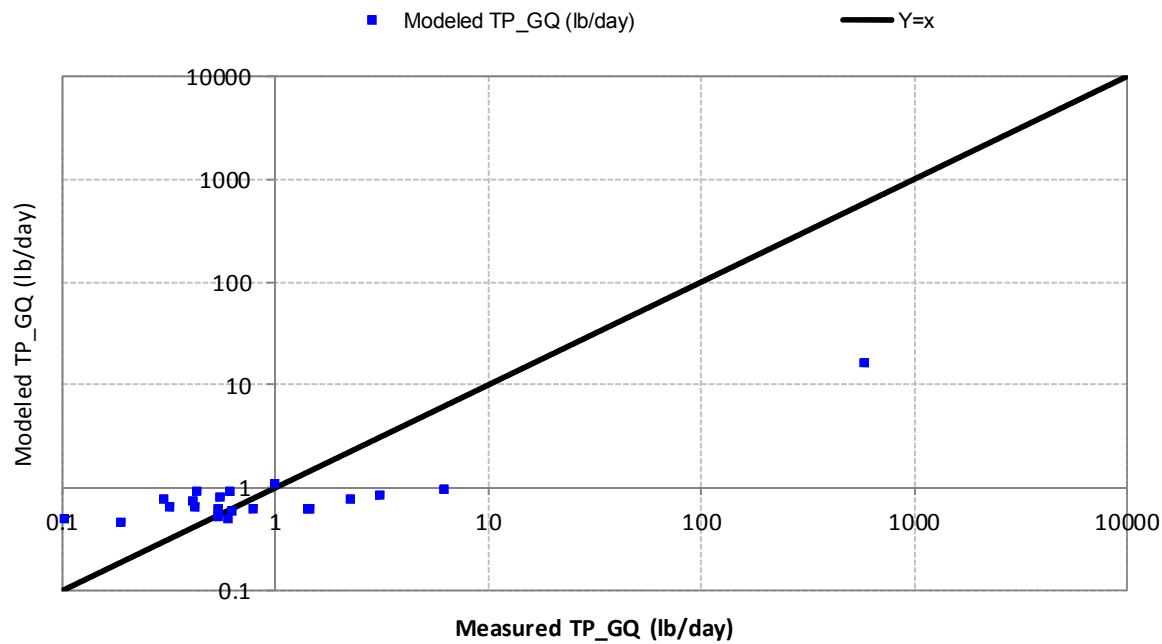


Figure B-10 Modeled vs. Observed Load TP_GQ at 03297830

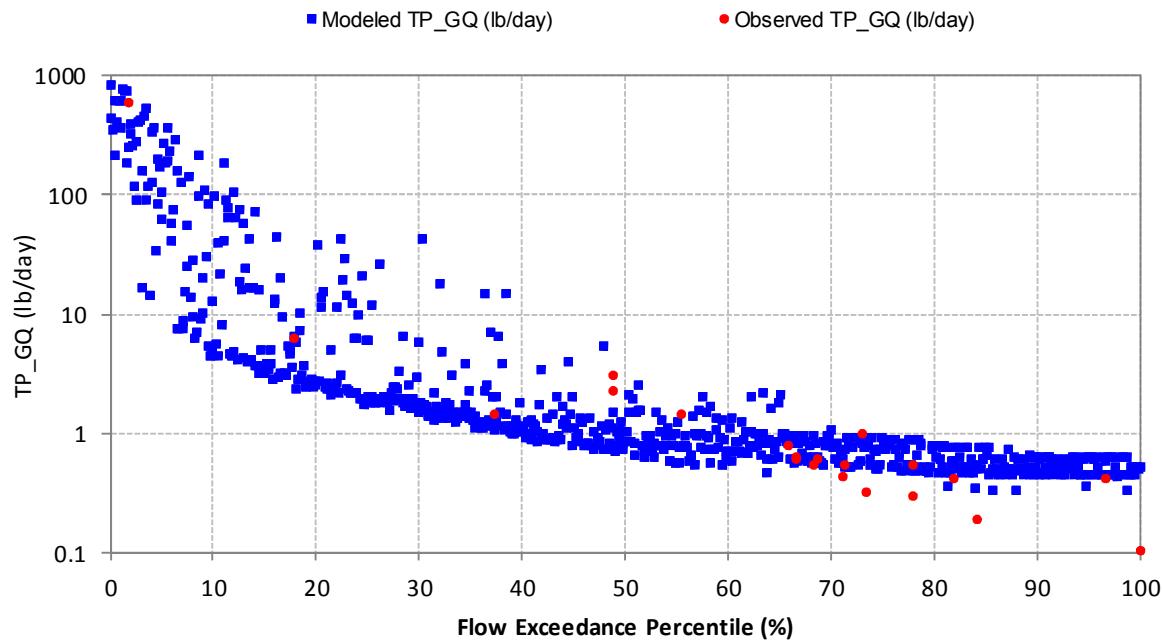


Figure B-11 Modeled vs. Observed Load TP_GQ at 03297830

Table B-3 Modeled vs. Observed Load TP_GQ at 03297830

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	8,848	11,010	-19.64	8,719	1.47	
2008	8,778	6,323	38.82	5,145	70.61	

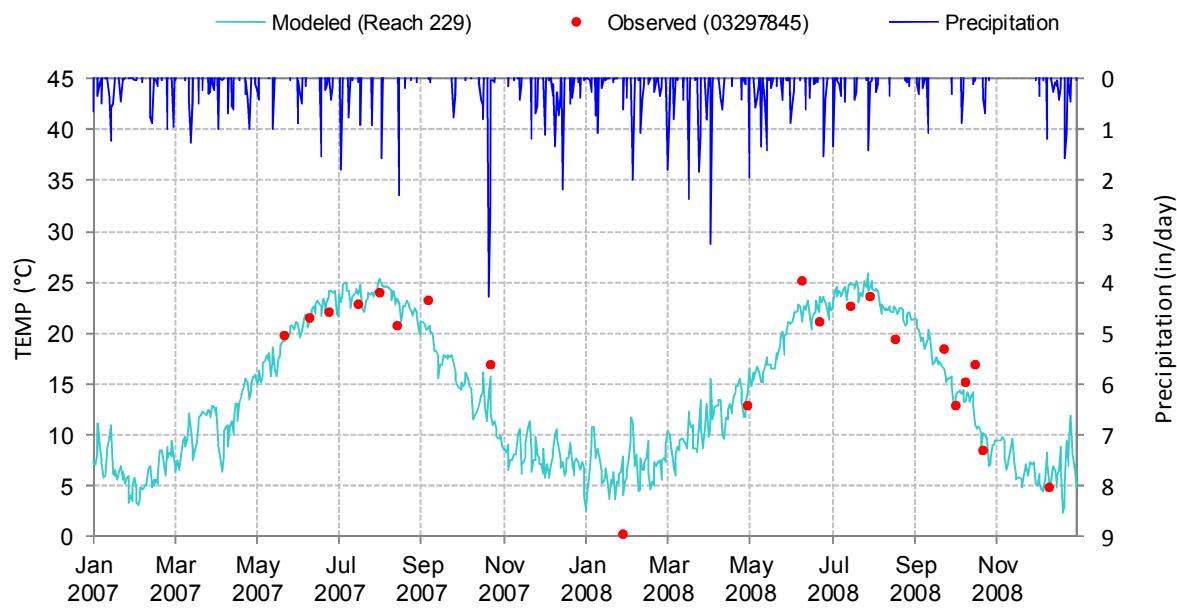


Figure B-12 Modeled vs. Observed TEMP (°C) at 03297845

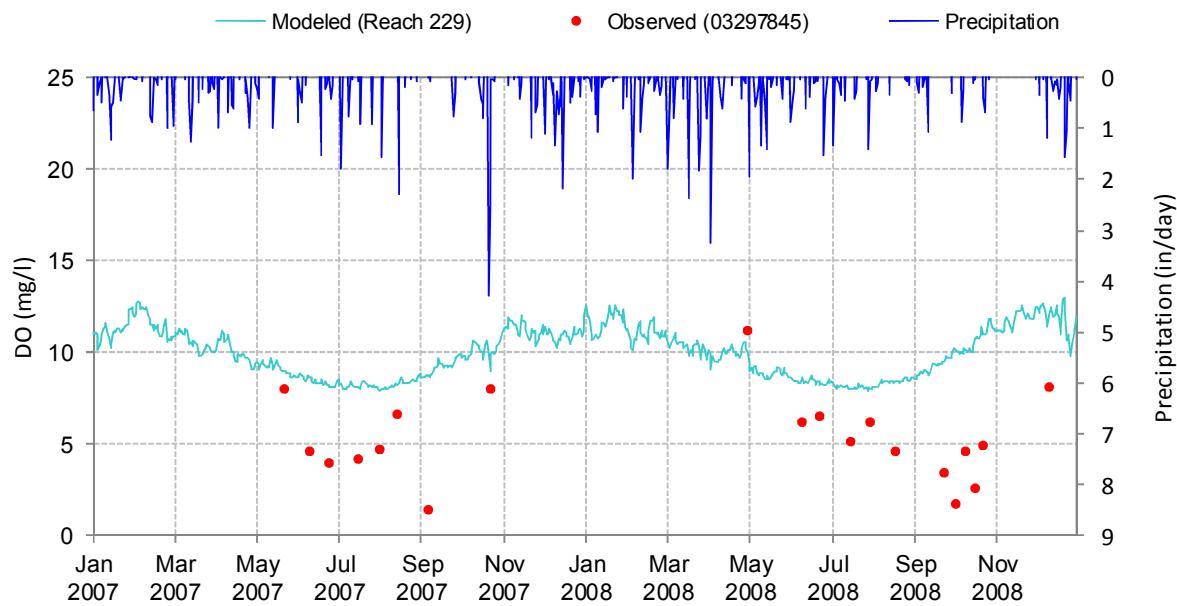


Figure B-13 Modeled vs. Observed DO (mg/l) at 03297845

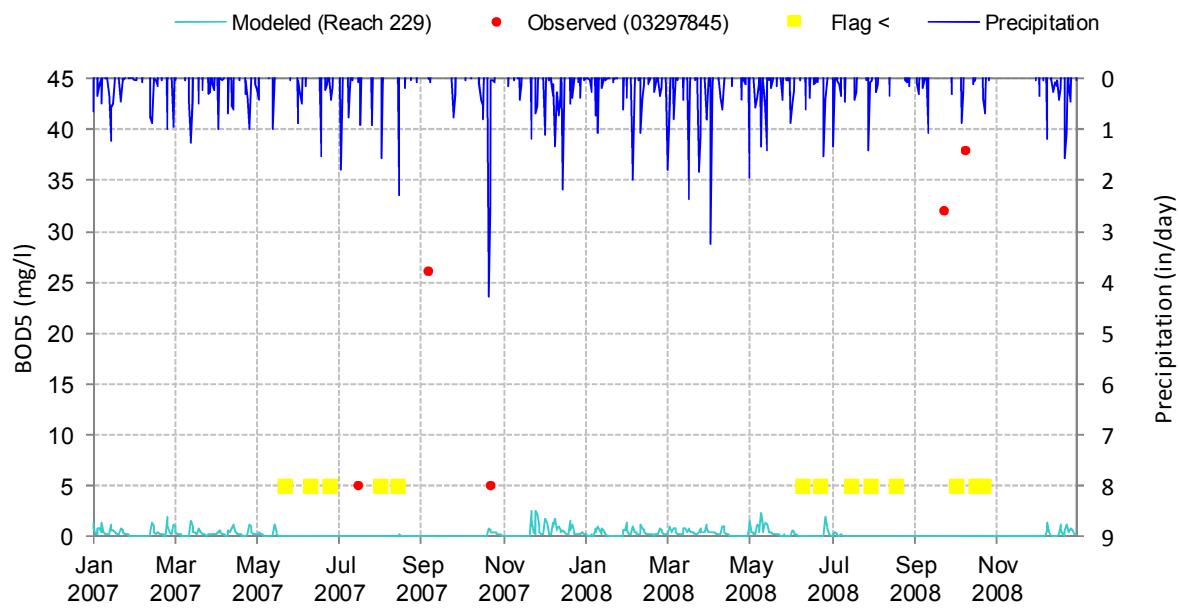


Figure B-14 Modeled vs. Observed BOD5 (mg/l) at 03297845

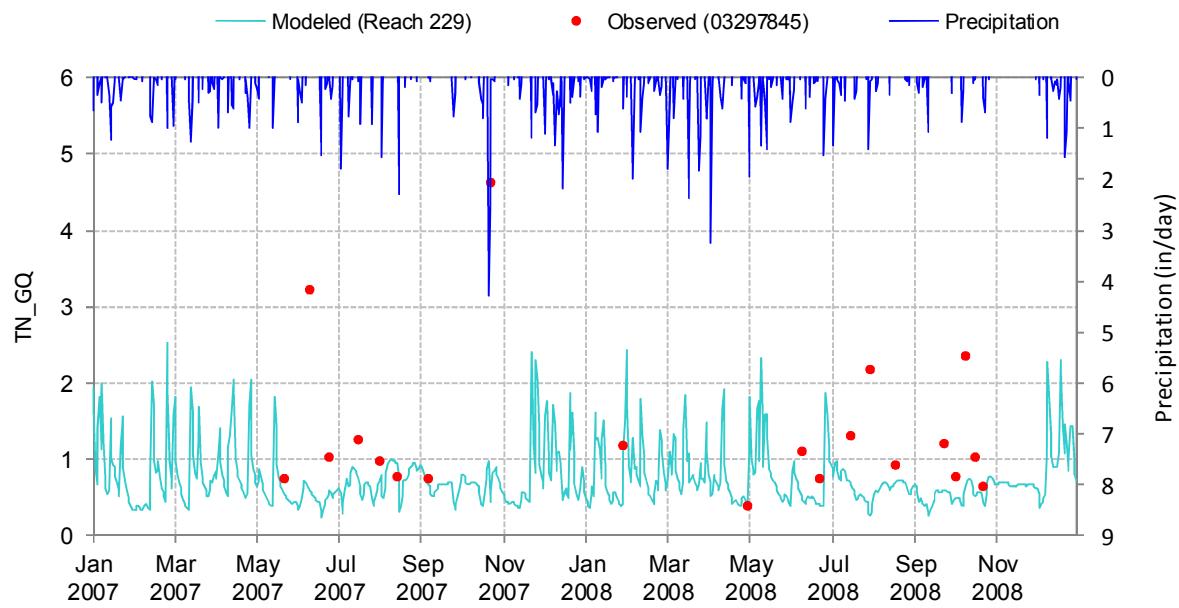


Figure B-15 Modeled vs. Observed TN_GQ at 03297845

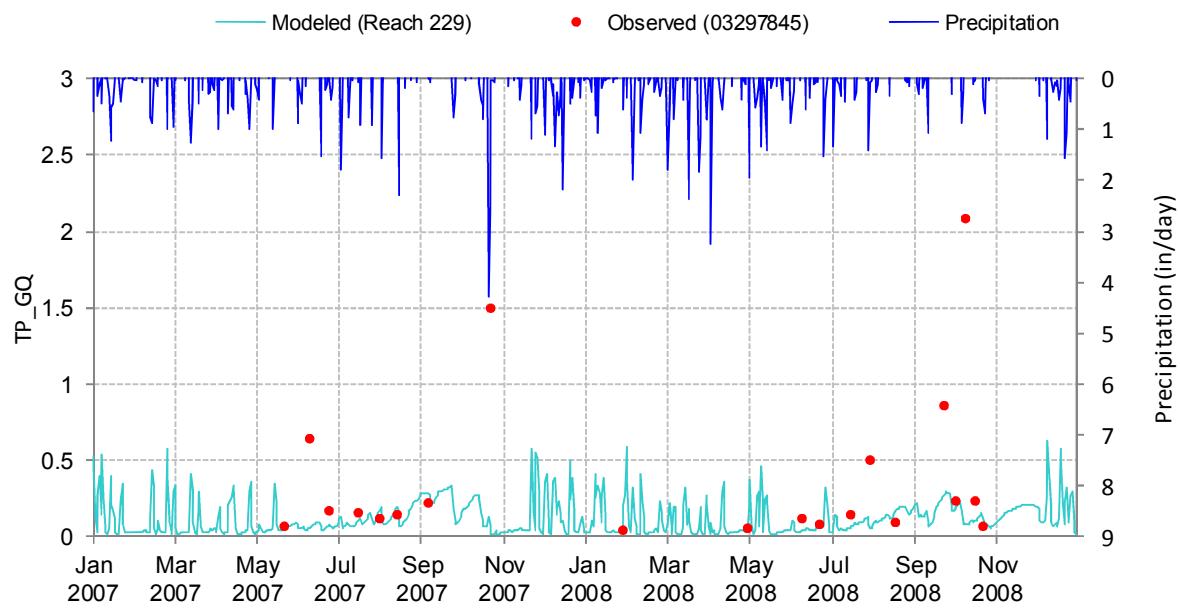


Figure B-16 Modeled vs. Observed TP_GQ at 03297845

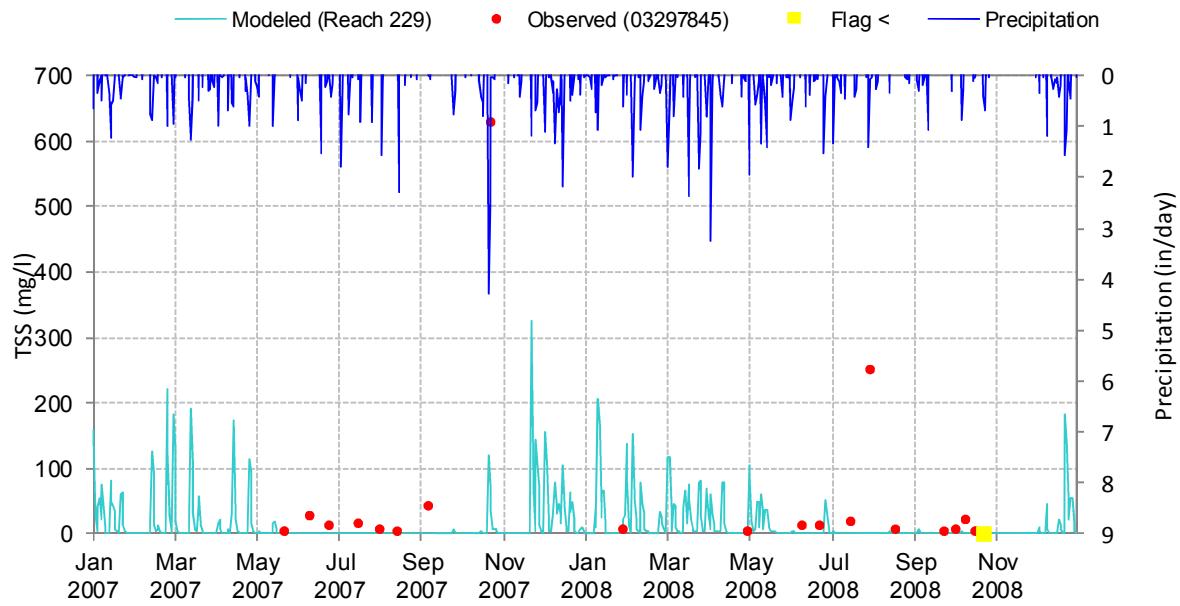


Figure B-17 Modeled vs. Observed TSS (mg/l) at 03297845

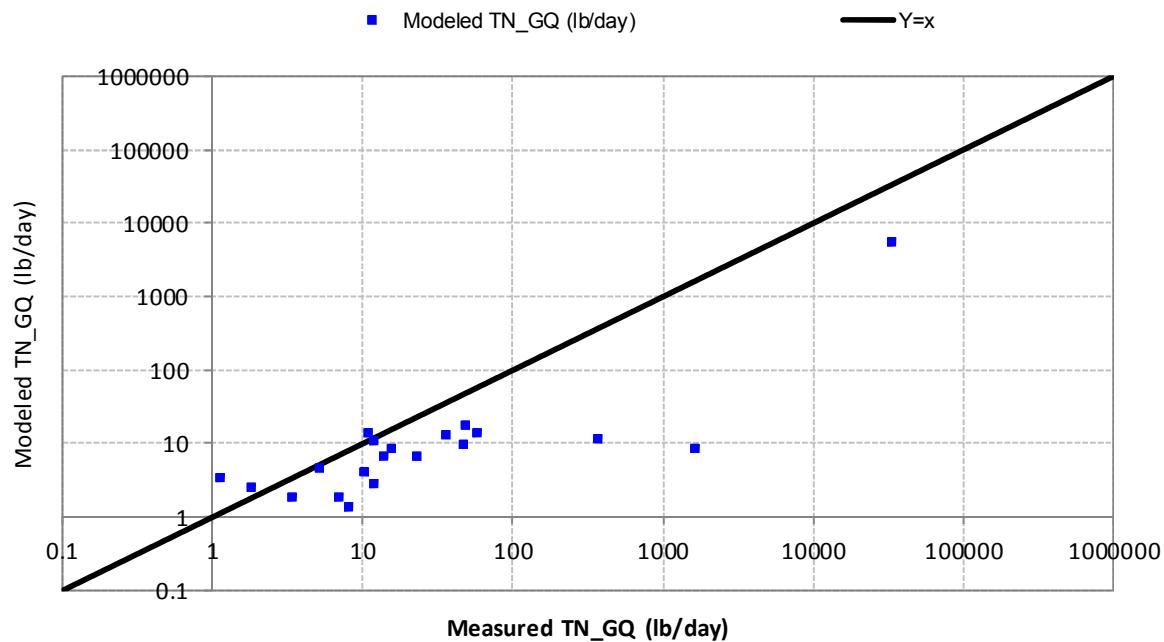


Figure B-18 Modeled vs. Observed Load TN_GQ at 03297845

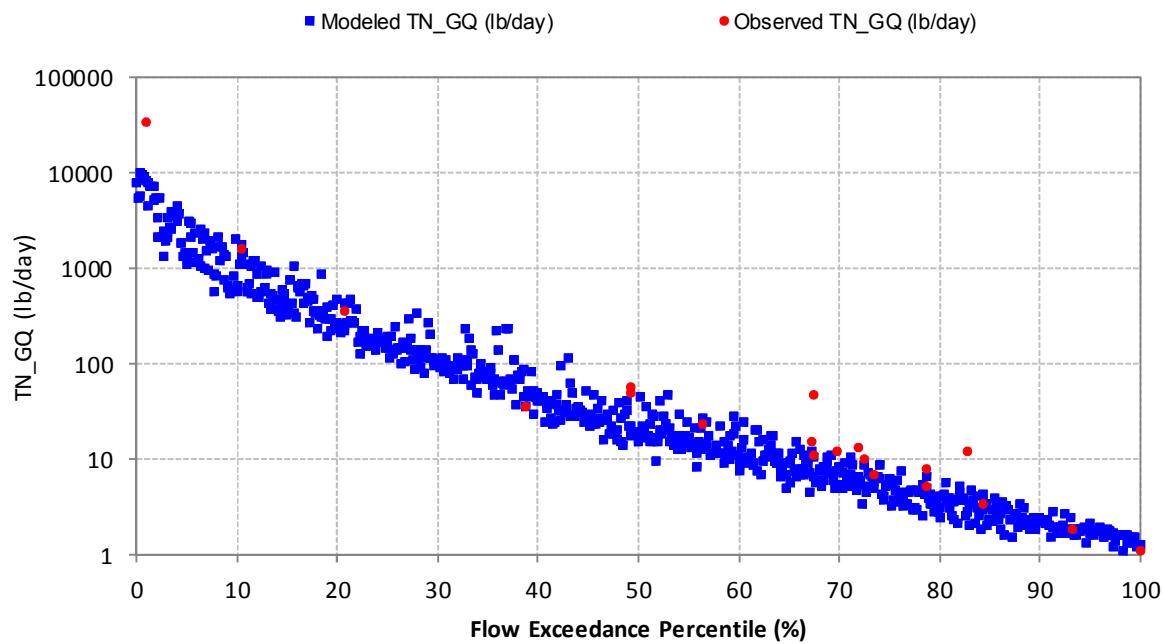


Figure B-19 Modeled vs. Observed Load TN_GQ at 03297845

Table B-4 Modeled vs. Observed Load TN_GQ at 03297845

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	133,367	333,153	-59.97	259,545	-48.62	
2008	157,922	232,926	-32.2	156,763	0.74	

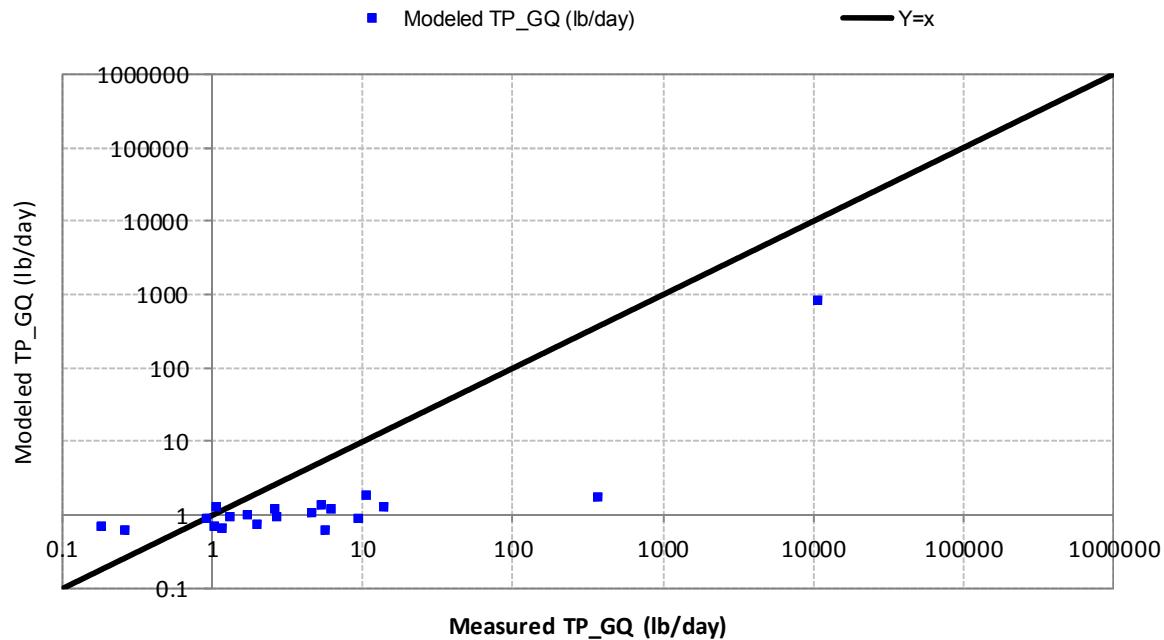


Figure B-20 Modeled vs. Observed Load TP_GQ at 03297845

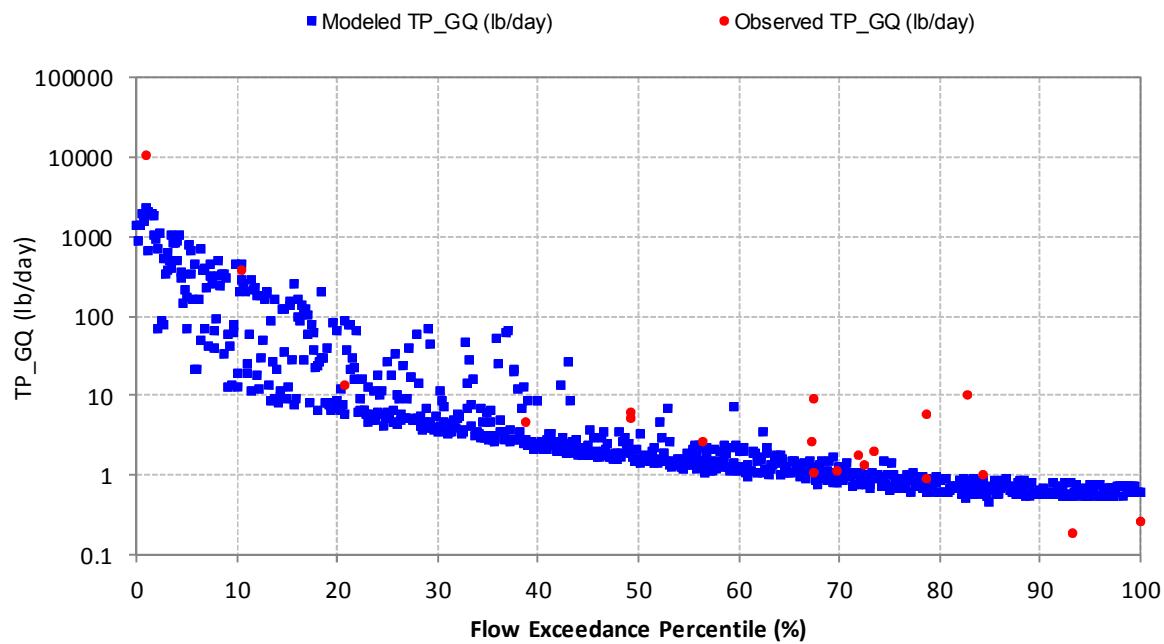


Figure B-21 Modeled vs. Observed Load TP_GQ at 03297845

Table B-5 Modeled vs. Observed Load TP_GQ at 03297845

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	24,261	93,702	-74.11	62,314	-61.07
2008	26,866	28,701	-6.39	15,421	74.22

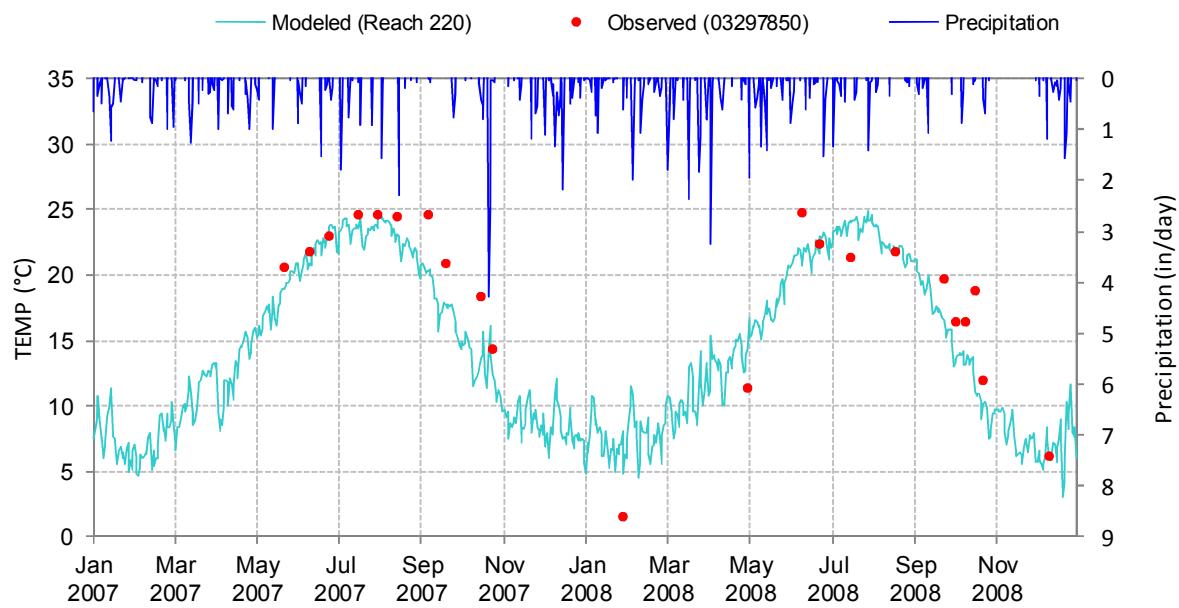


Figure B-22 Modeled vs. Observed TEMP (°C) at 03297850

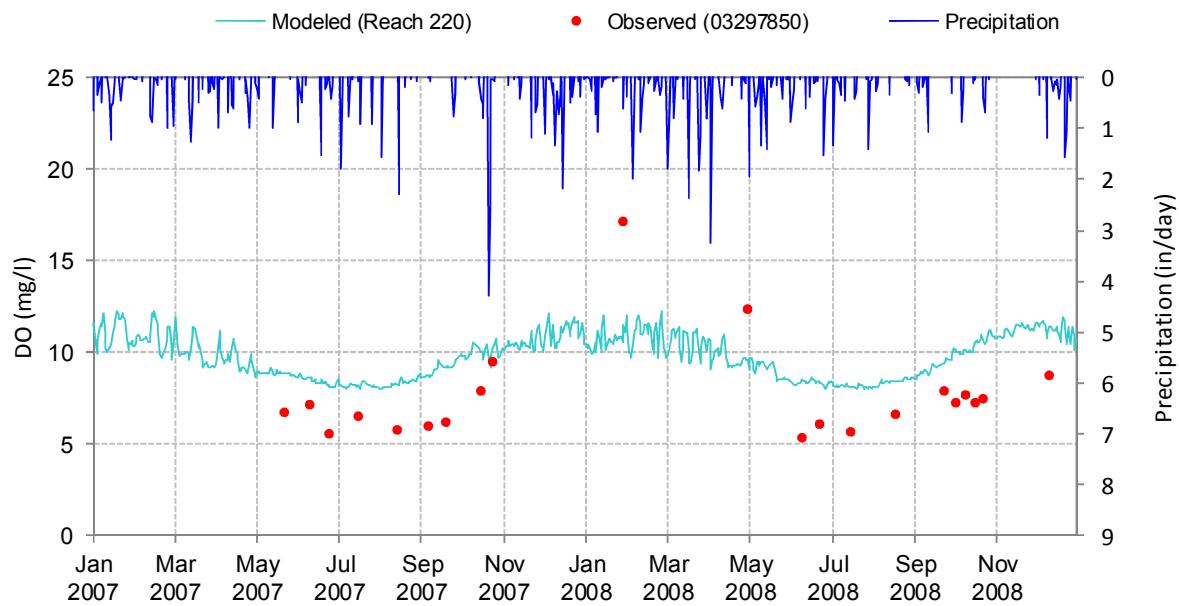


Figure B-23 Modeled vs. Observed DO (mg/l) at 03297850

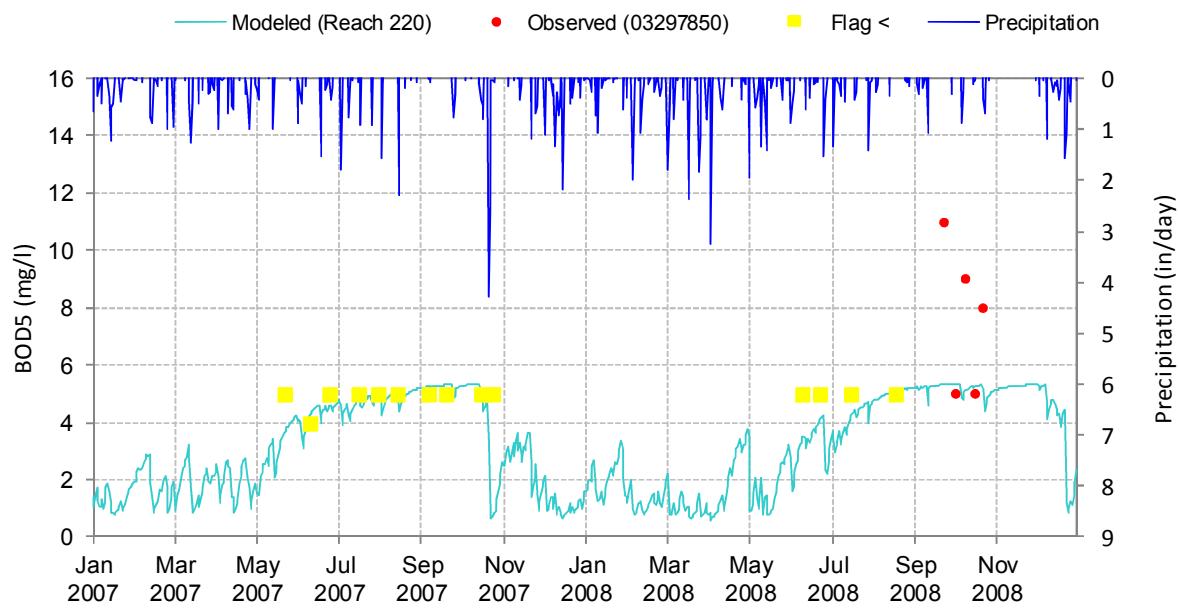


Figure B-24 Modeled vs. Observed BOD5 (mg/l) at 03297850

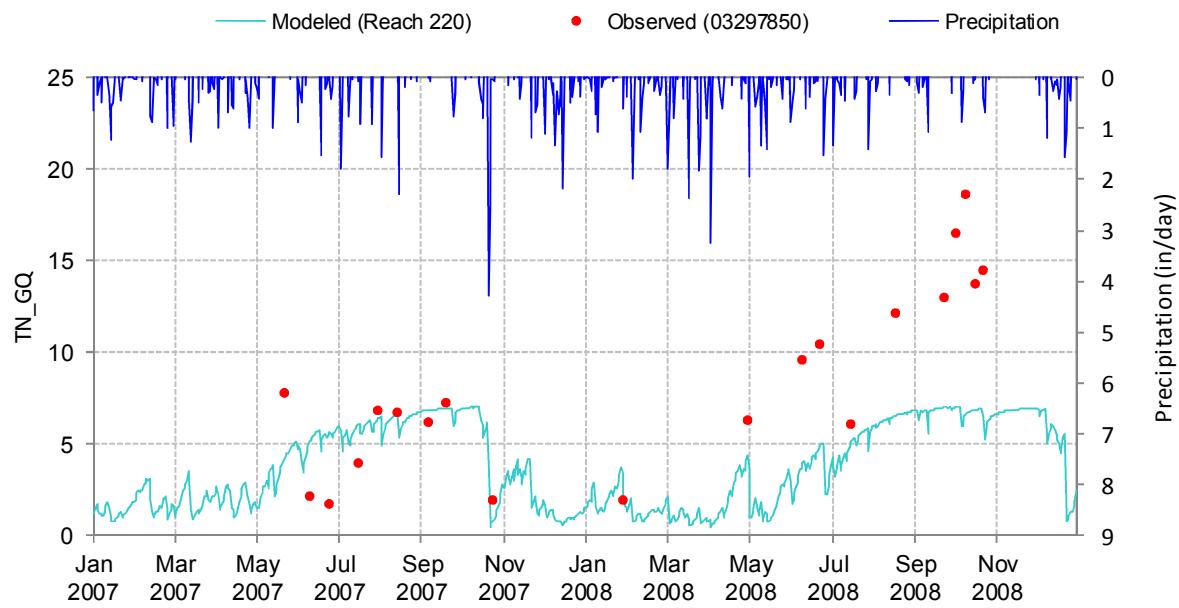


Figure B-25 Modeled vs. Observed TN_GQ at 03297850

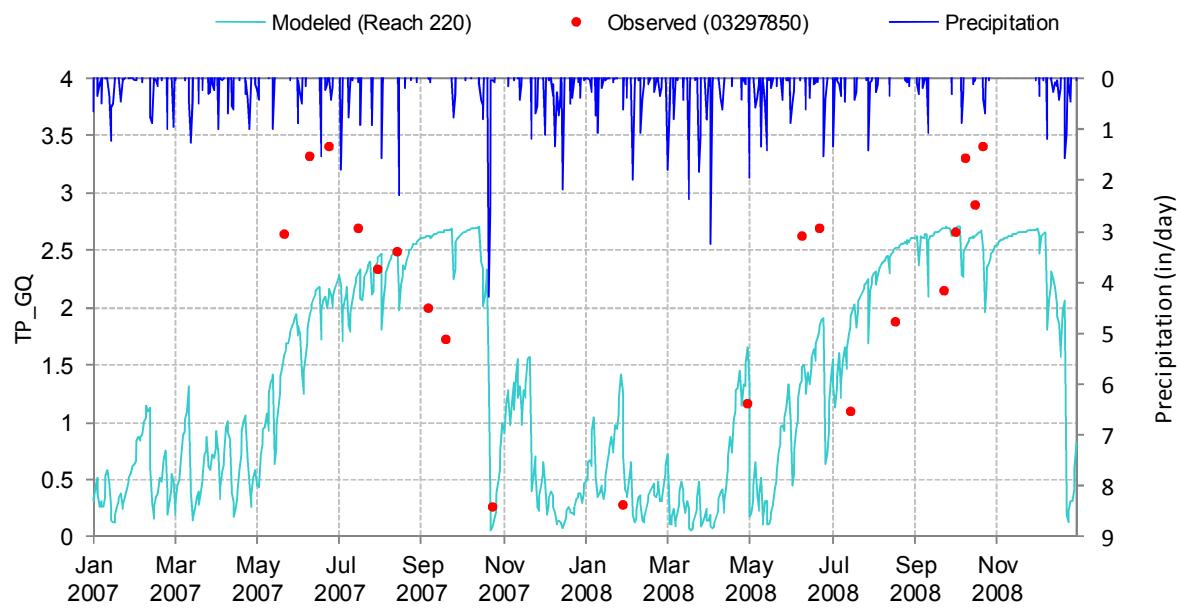


Figure B-26 Modeled vs. Observed TP_GQ at 03297850

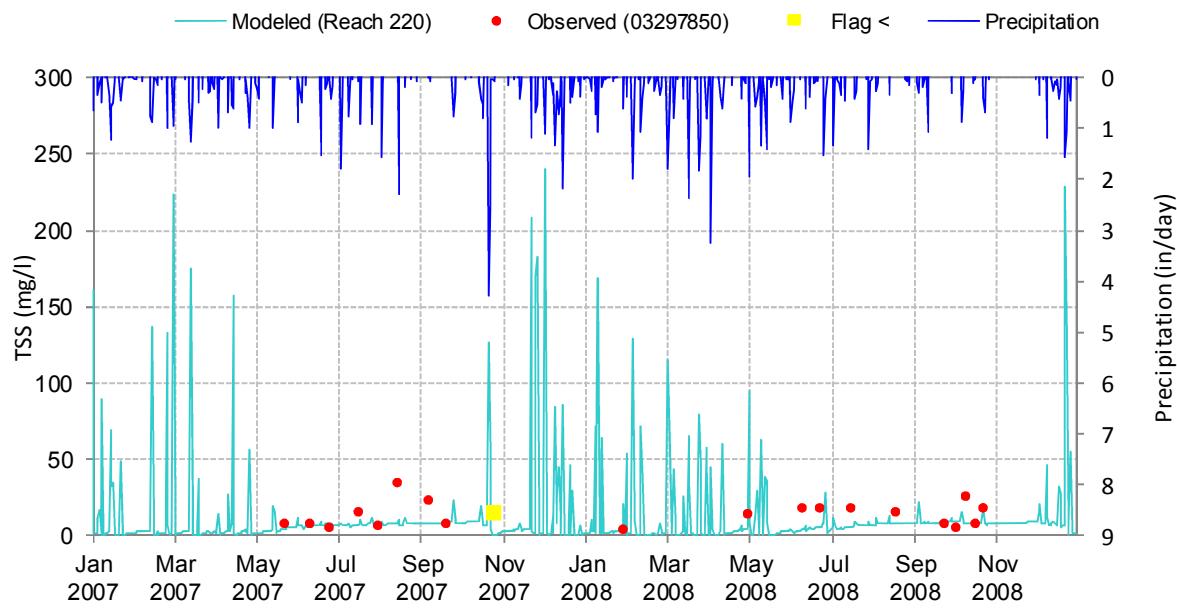


Figure B-27 Modeled vs. Observed TSS (mg/l) at 03297850

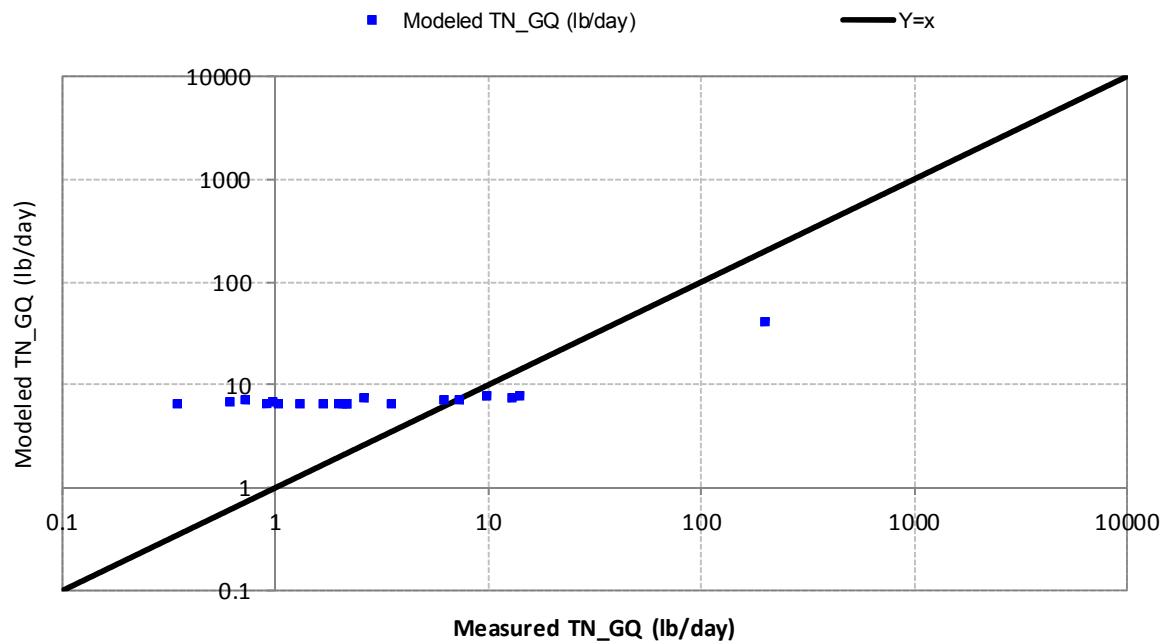


Figure B-28 Modeled vs. Observed Load TN_GQ at 03297850

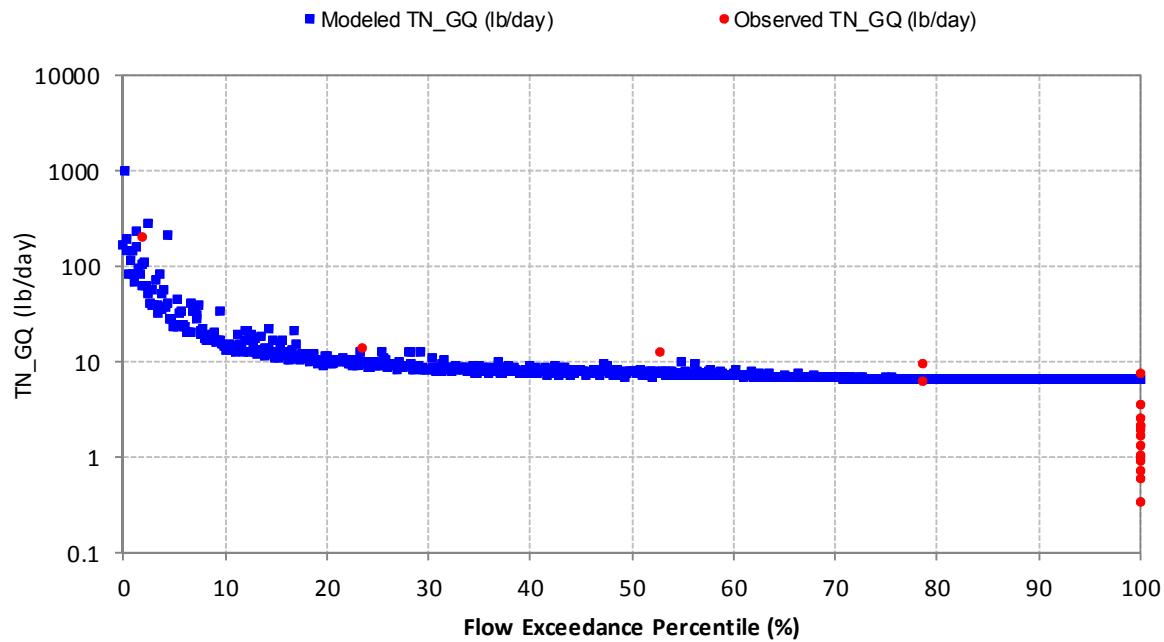


Figure B-29 Modeled vs. Observed Load TN_GQ at 03297850

Table B-6 Modeled vs. Observed Load TN_GQ at 03297850

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	5,107		17,909	-71.48	17,036	-70.02
2008	5,389		13,830	-61.04	20,554	-73.78

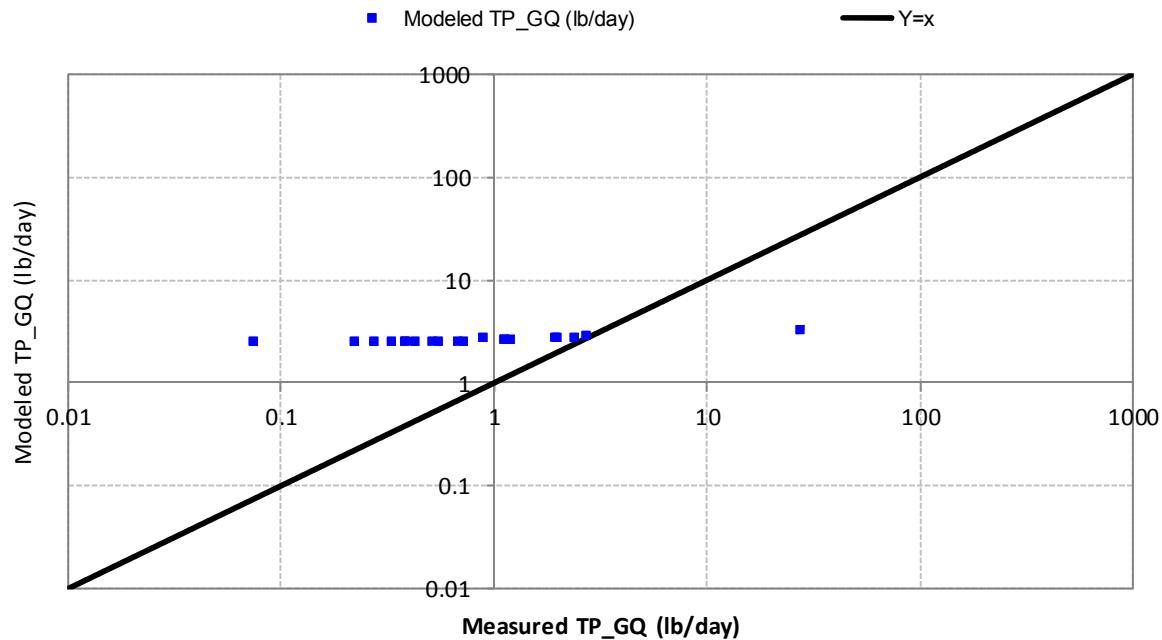


Figure B-30 Modeled vs. Observed Load TP_GQ at 03297850

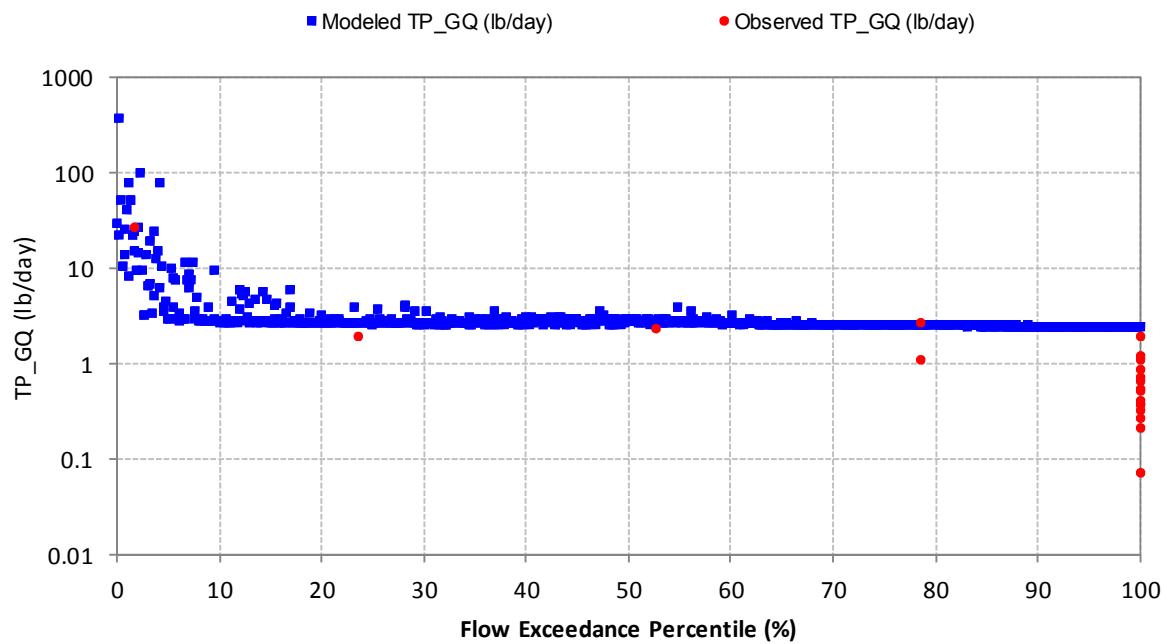


Figure B-31 Modeled vs. Observed Load TP_GQ at 03297850

Table B-7 Modeled vs. Observed Load TP_GQ at 03297850

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,547	5,669	-72.7	5,421	-71.45
2008	1,568	2,460	-36.27	3,927	-60.08

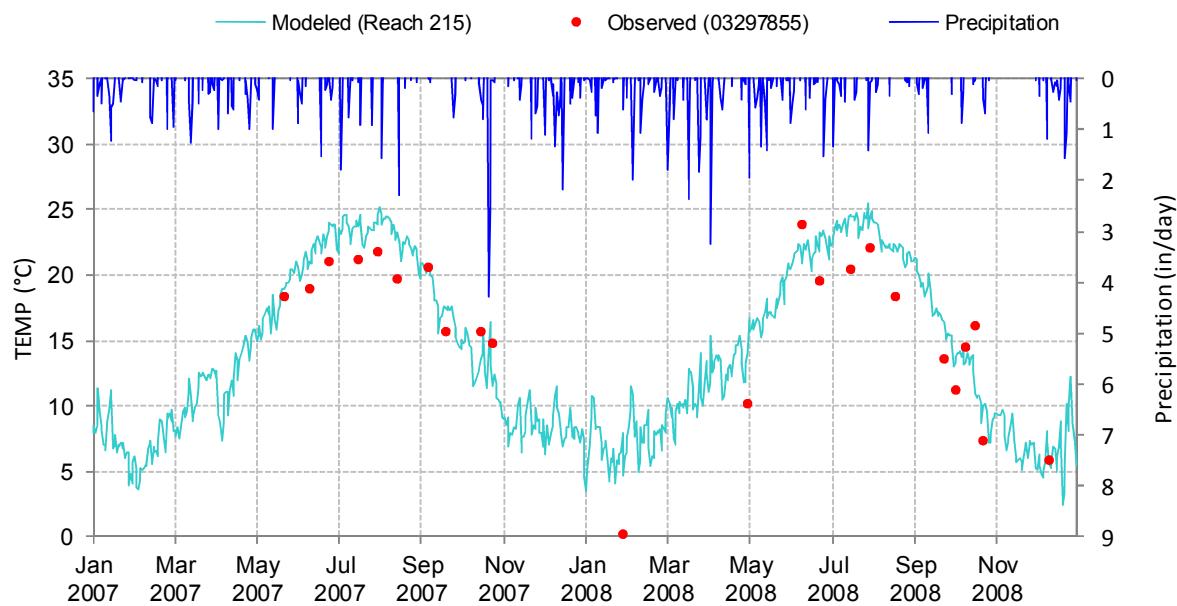


Figure B-32 Modeled vs. Observed TEMP (°C) at 03297855

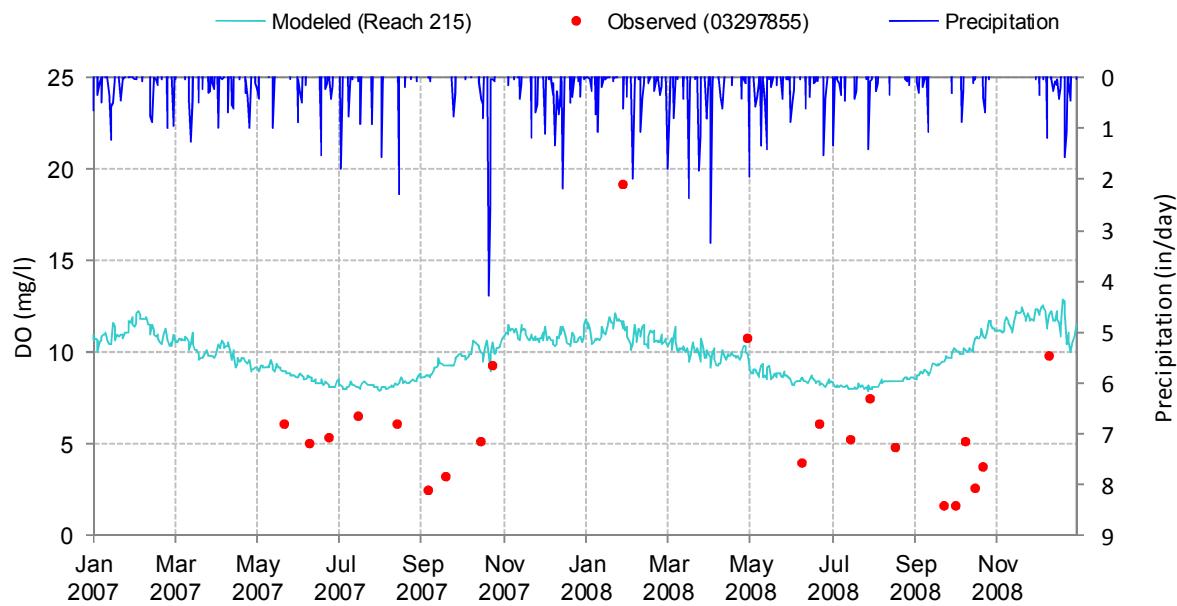


Figure B-33 Modeled vs. Observed DO (mg/l) at 03297855

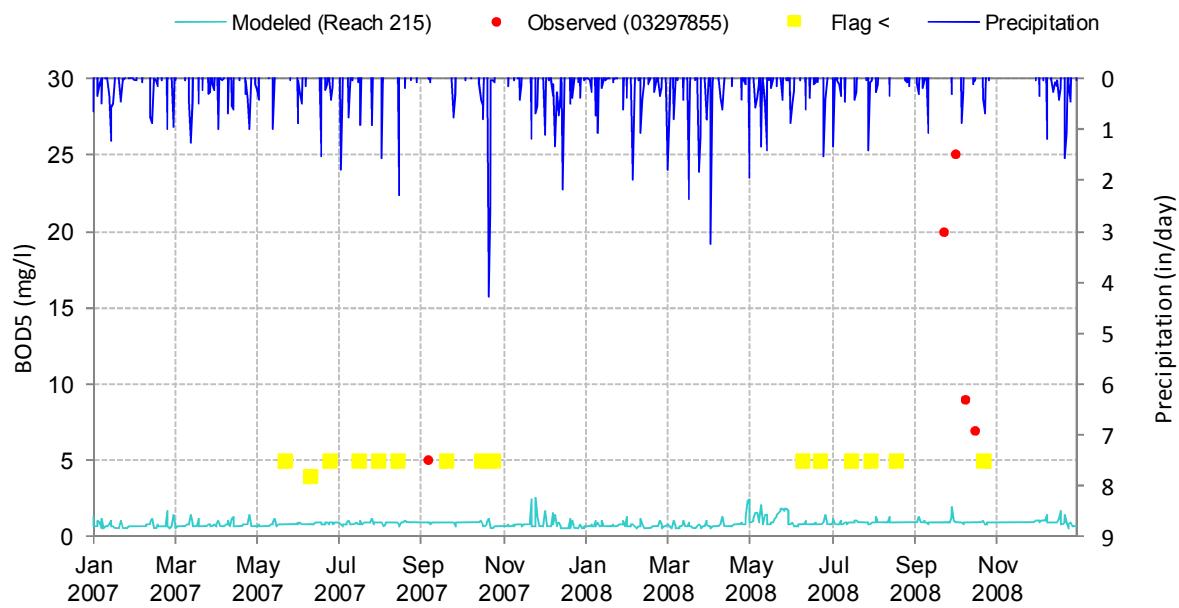


Figure B-34 Modeled vs. Observed BOD5 (mg/l) at 03297855

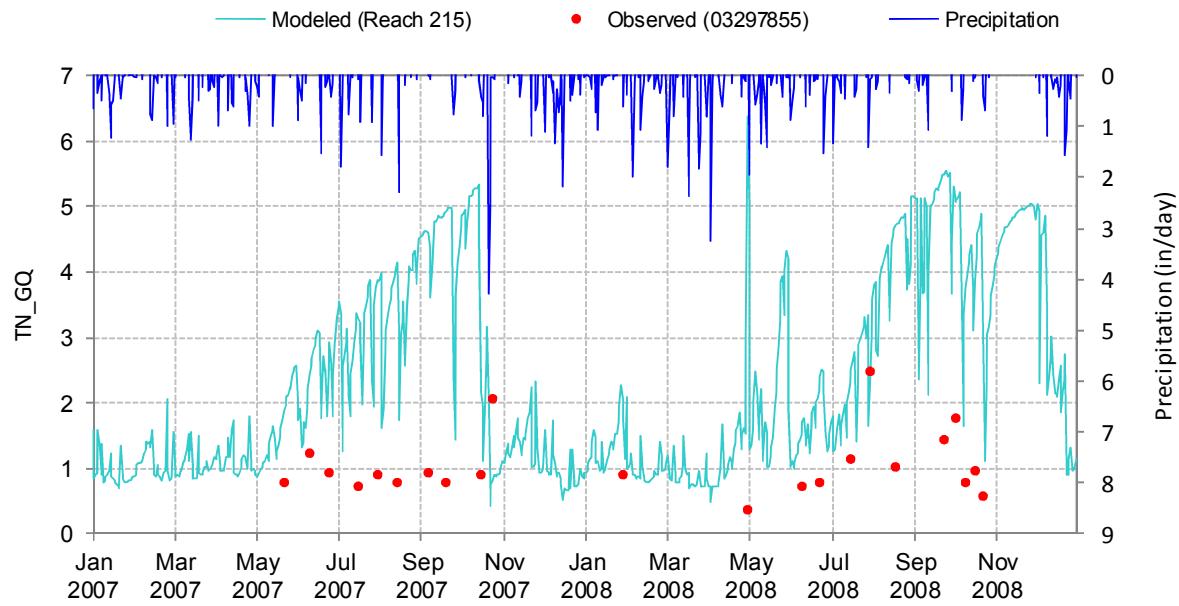


Figure B-35 Modeled vs. Observed TN_GQ at 03297855

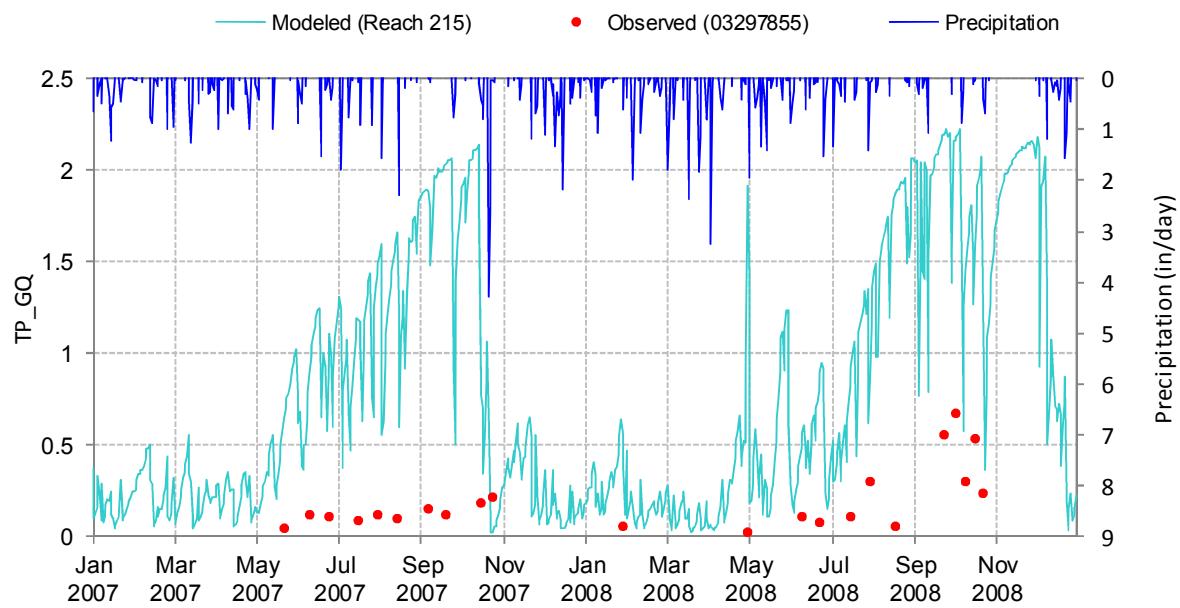


Figure B-36 Modeled vs. Observed TP_GQ at 03297855

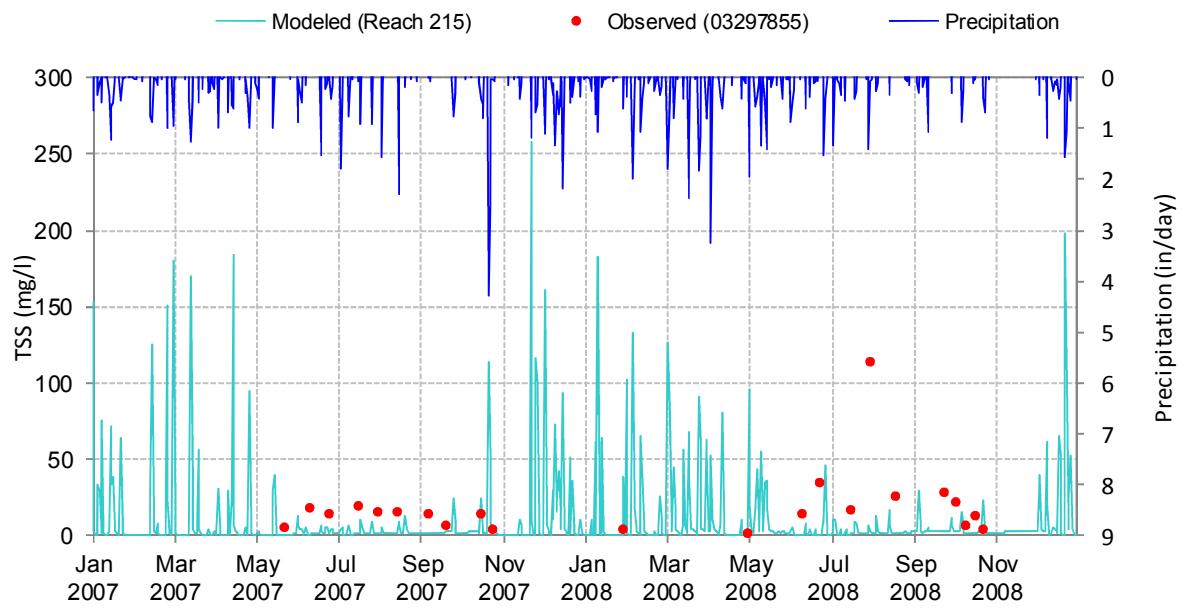


Figure B-37 Modeled vs. Observed TSS (mg/l) at 03297855

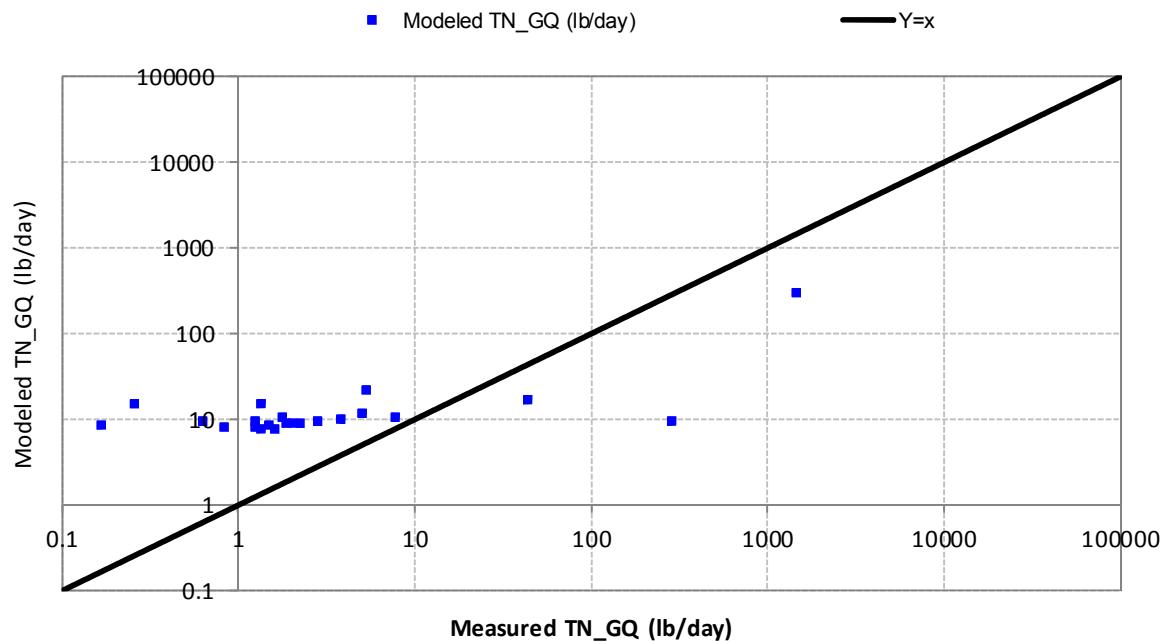


Figure B-38 Modeled vs. Observed Load TN_GQ at 03297855

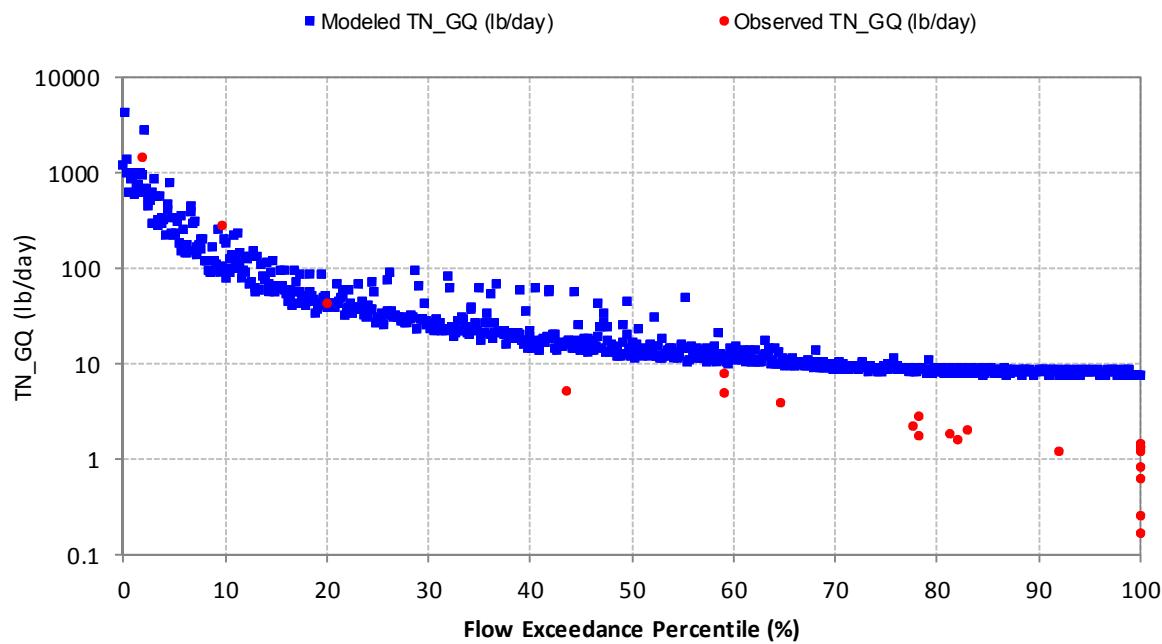


Figure B-39 Modeled vs. Observed Load TN_GQ at 03297855

Table B-8 Modeled vs. Observed Load TN_GQ at 03297855

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	23,464	27,720	27,720	-15.35	24,834	-5.52
2008	28,654	25,480	25,480	12.46	19,506	46.9

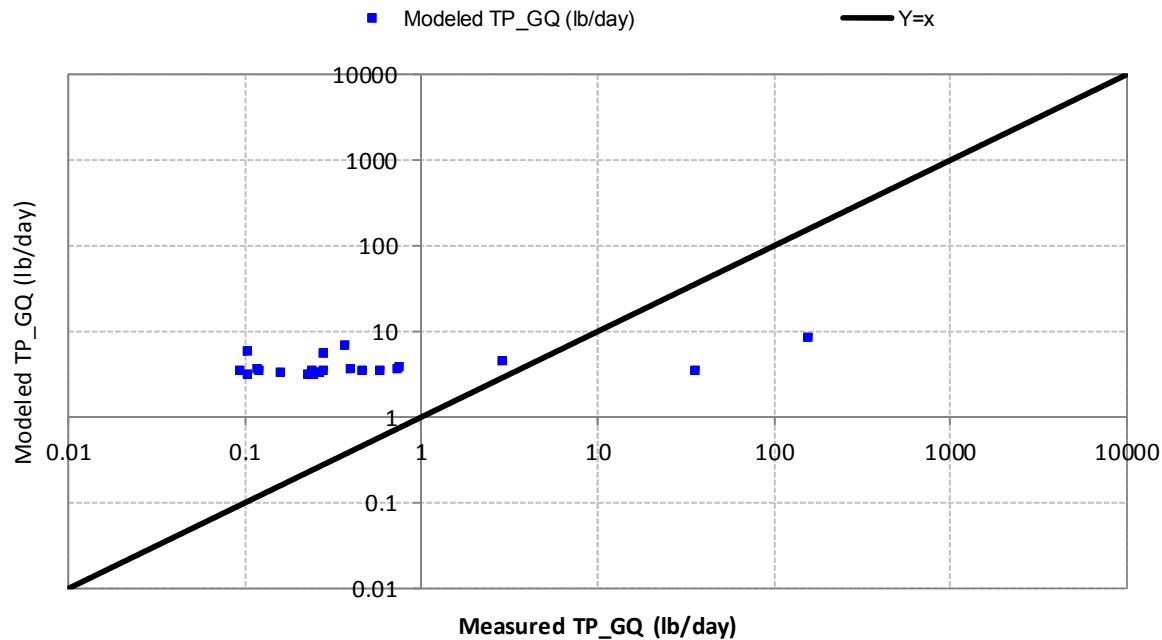


Figure B-40 Modeled vs. Observed Load TP_GQ at 03297855

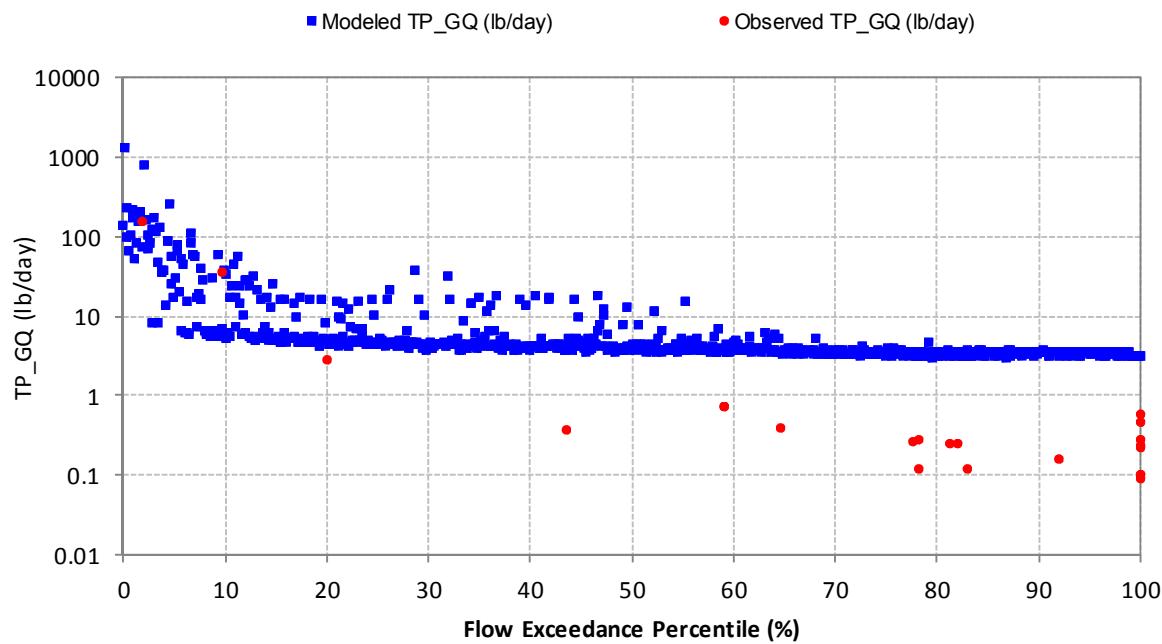


Figure B-41 Modeled vs. Observed Load TP_GQ at 03297855

Table B-9 Modeled vs. Observed Load TP_GQ at 03297855

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	4,868	2,701	80.23	2,179	123.37
2008	5,423	2,199	146.57	1,801	201.16

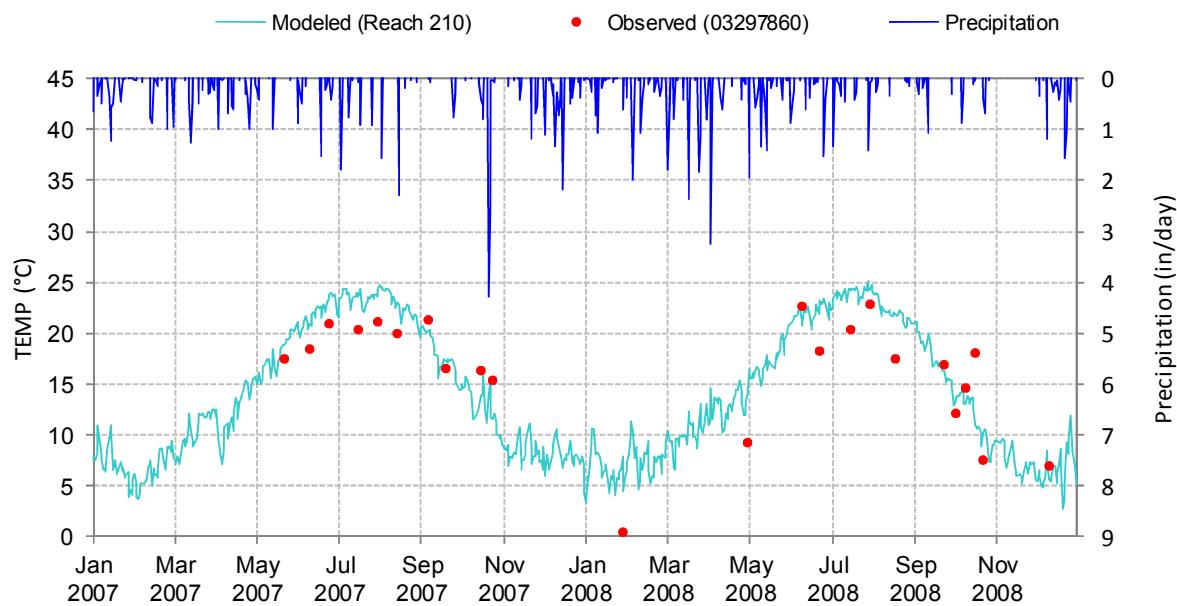


Figure B-42 Modeled vs. Observed TEMP (°C) at 03297860

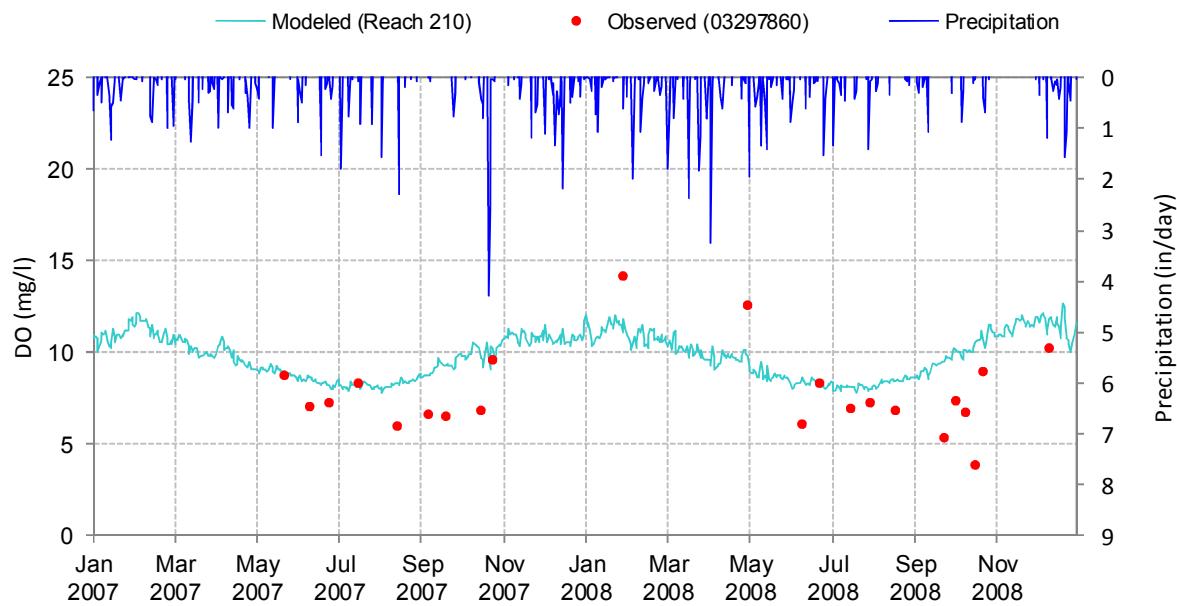


Figure B-43 Modeled vs. Observed DO (mg/l) at 03297860

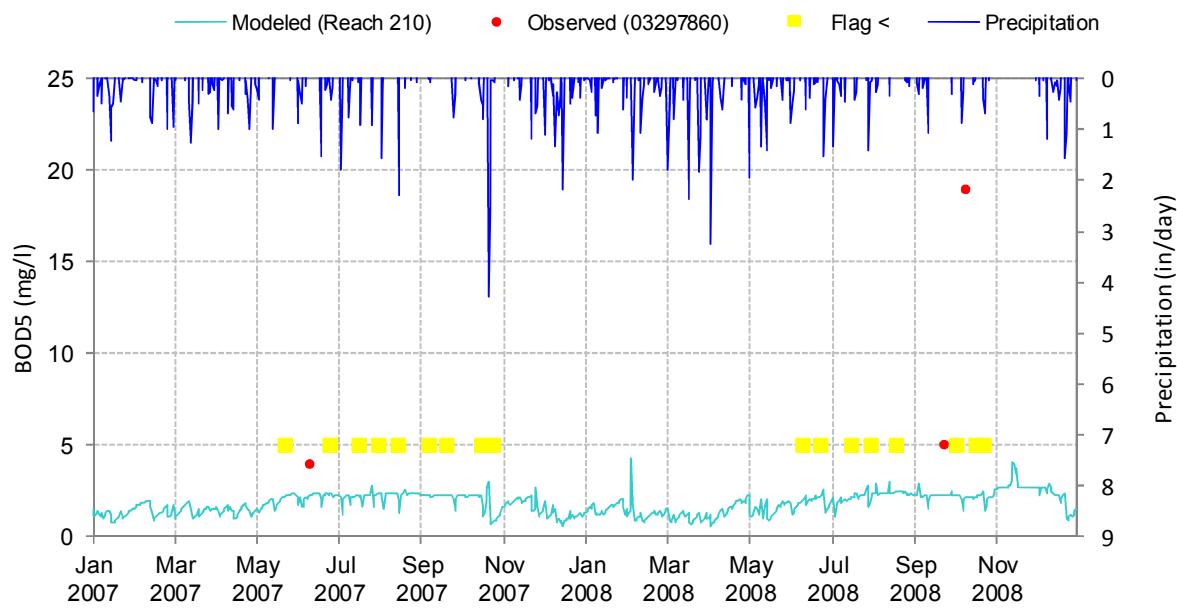


Figure B-44 Modeled vs. Observed BOD5 (mg/l) at 03297860

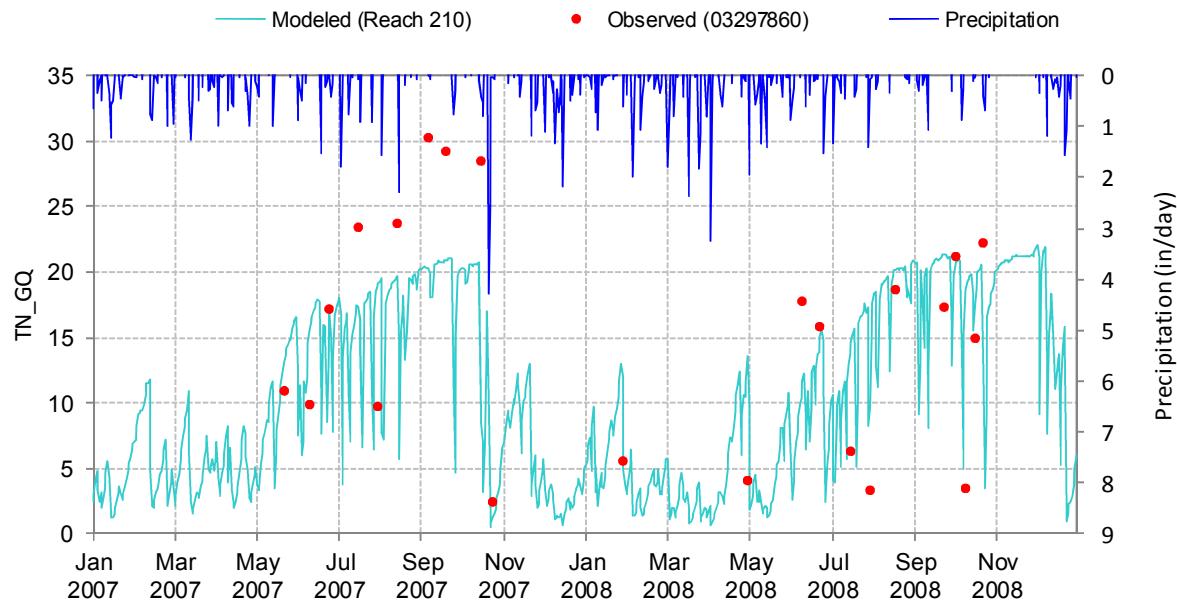


Figure B-45 Modeled vs. Observed TN_GQ at 03297860

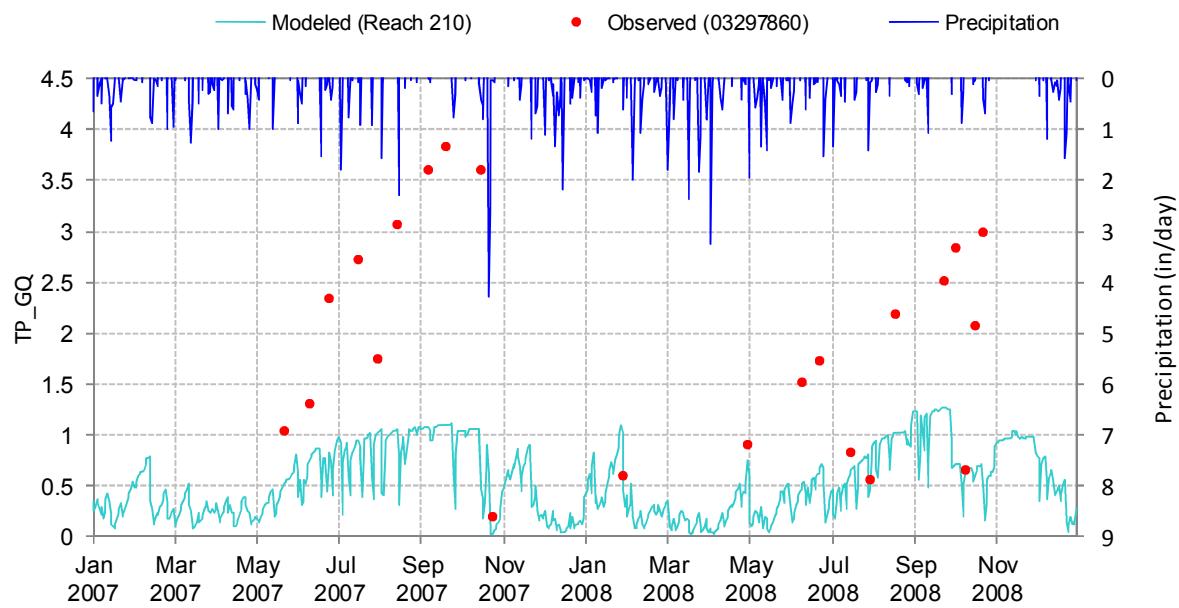


Figure B-46 Modeled vs. Observed TP_GQ at 03297860

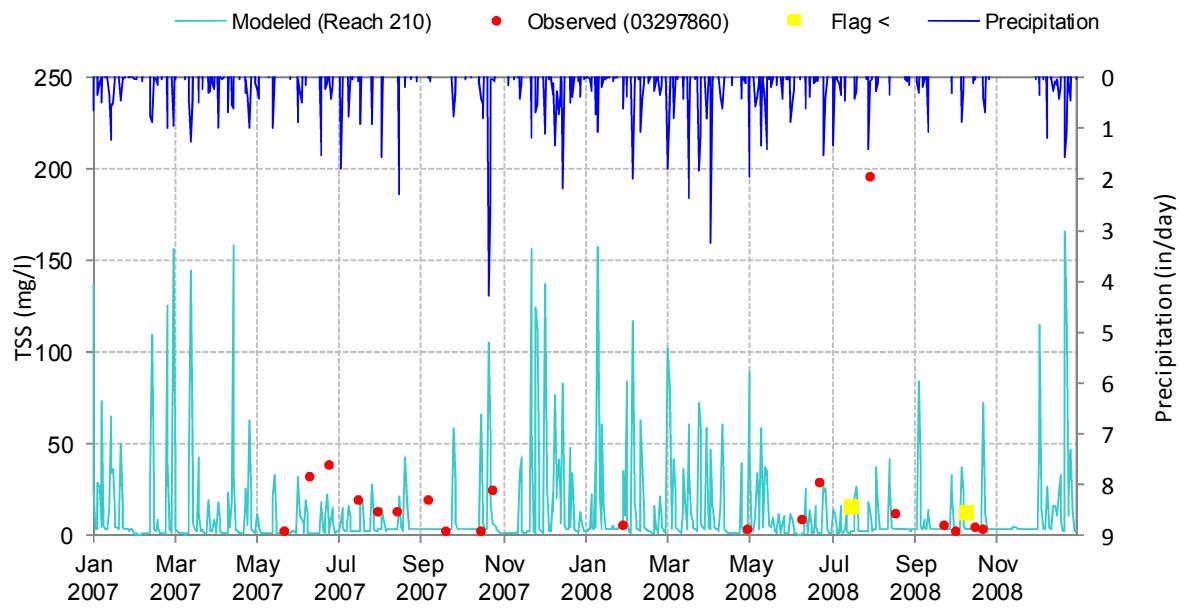


Figure B-47 Modeled vs. Observed TSS (mg/l) at 03297860

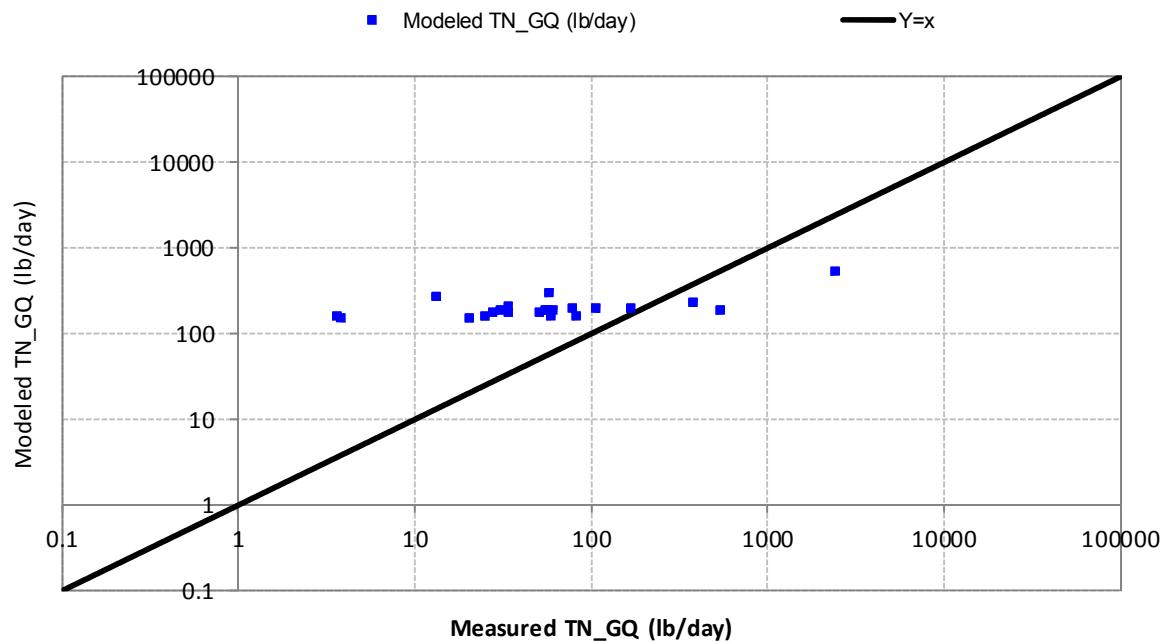


Figure B-48 Modeled vs. Observed Load TN_GQ at 03297860

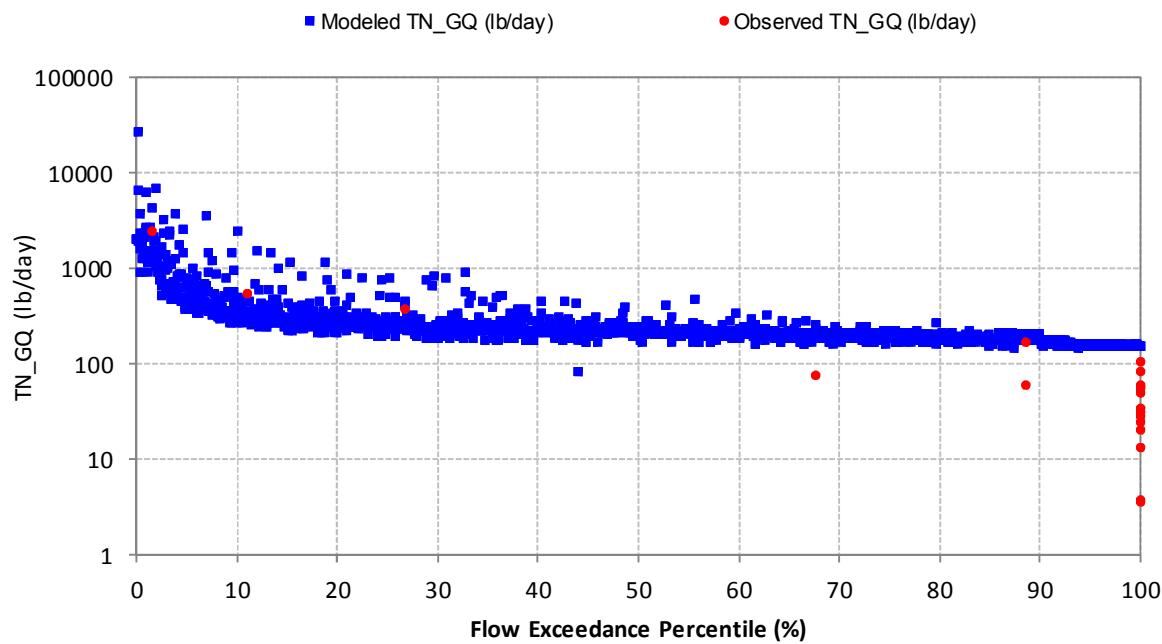


Figure B-49 Modeled vs. Observed Load TN_GQ at 03297860

Table B-10 Modeled vs. Observed Load TN_GQ at 03297860

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	129,594	275,419	-52.95	257,623	-49.7	
2008	122,064	237,440	-48.59	246,004	-50.38	

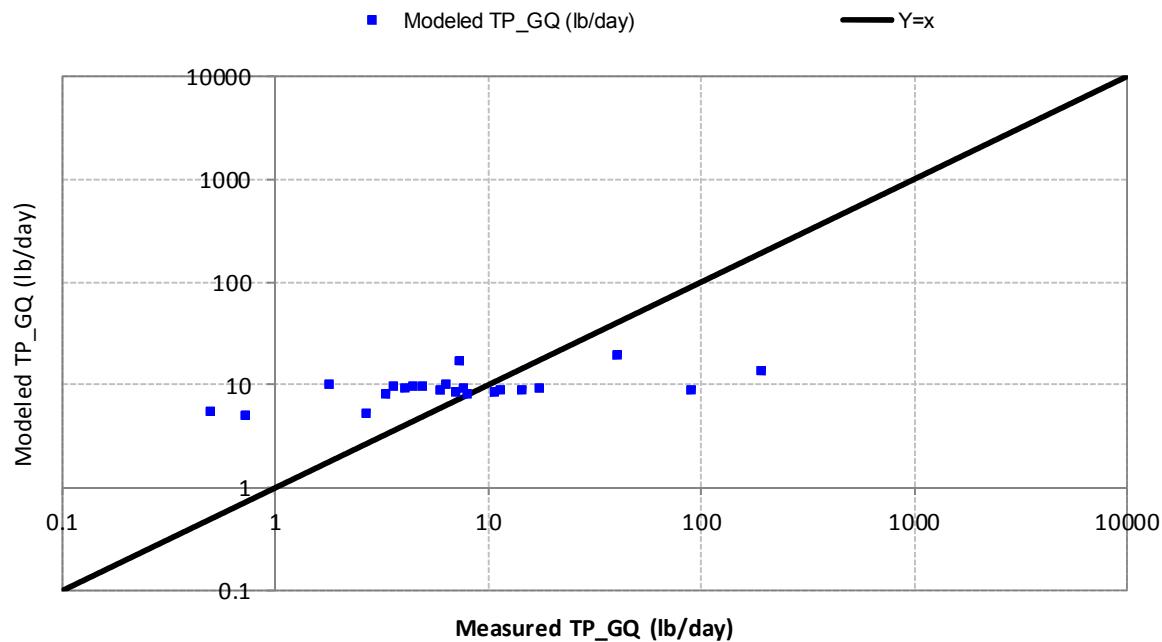


Figure B-50 Modeled vs. Observed Load TP_GQ at 03297860

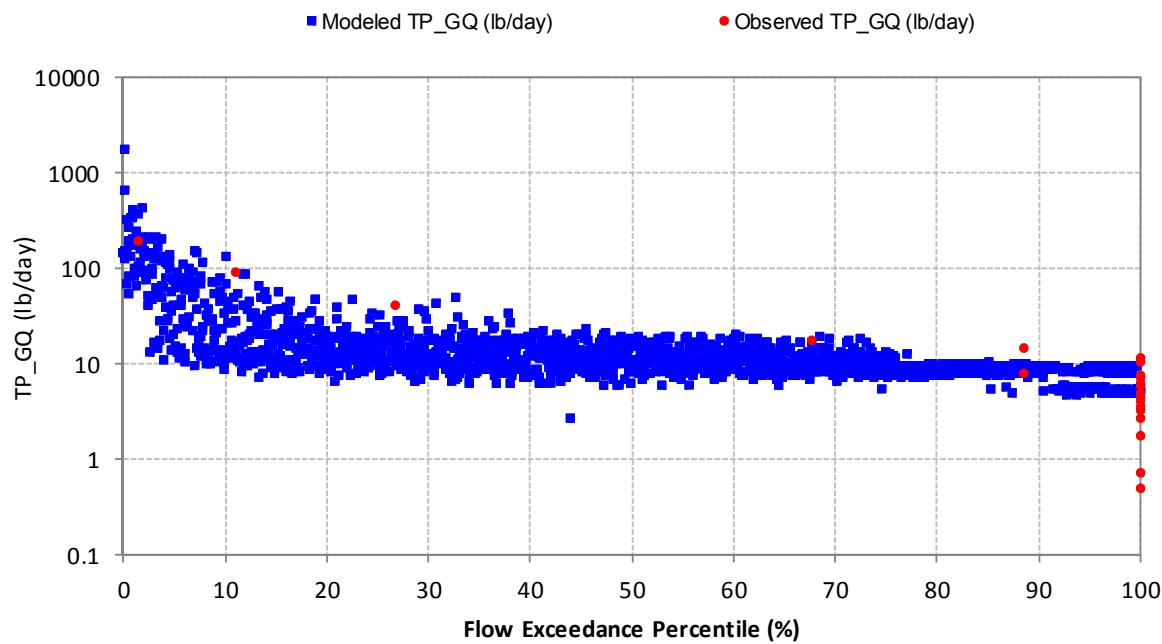


Figure B-51 Modeled vs. Observed Load TP_GQ at 03297860

Table B-11 Modeled vs. Observed Load TP_GQ at 03297860

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	8,423	28,106	-70.03	25,759	-67.3
2008	7,670	29,082	-73.63	34,927	-78.04

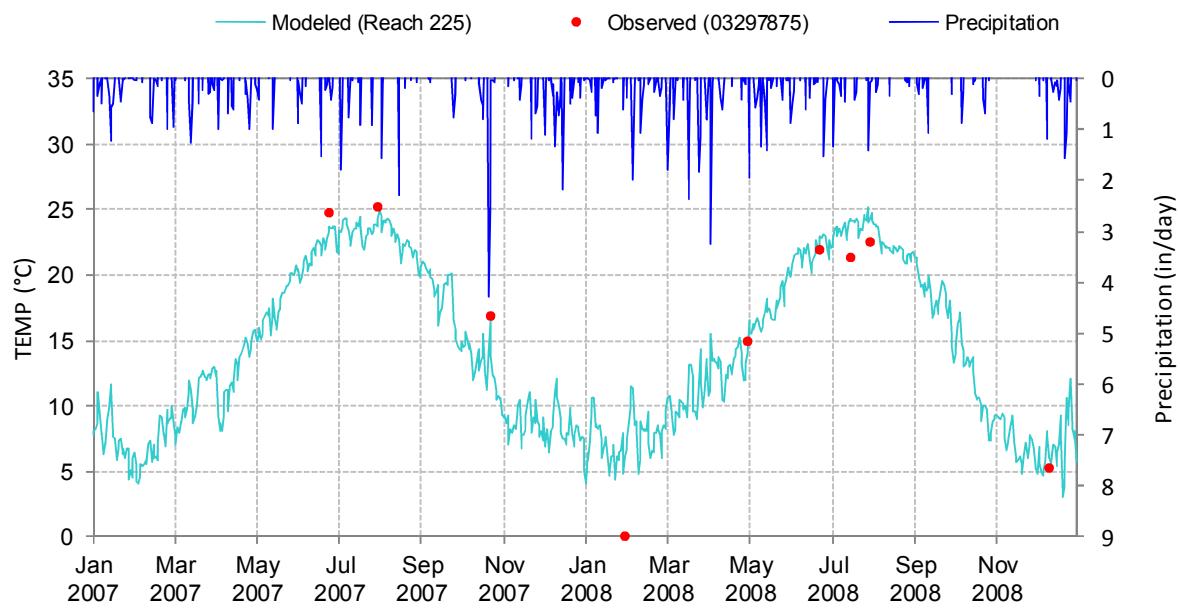
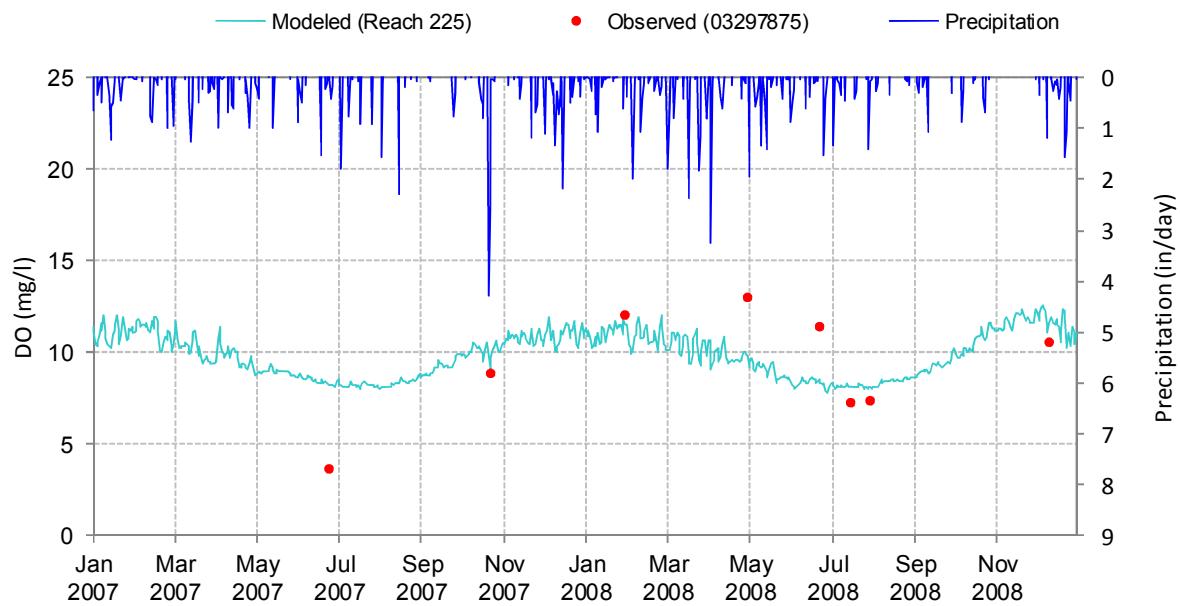
Figure B-52 Modeled vs. Observed TEMP ($^{\circ}\text{C}$) at 03297875

Figure B-53 Modeled vs. Observed DO (mg/l) at 03297875

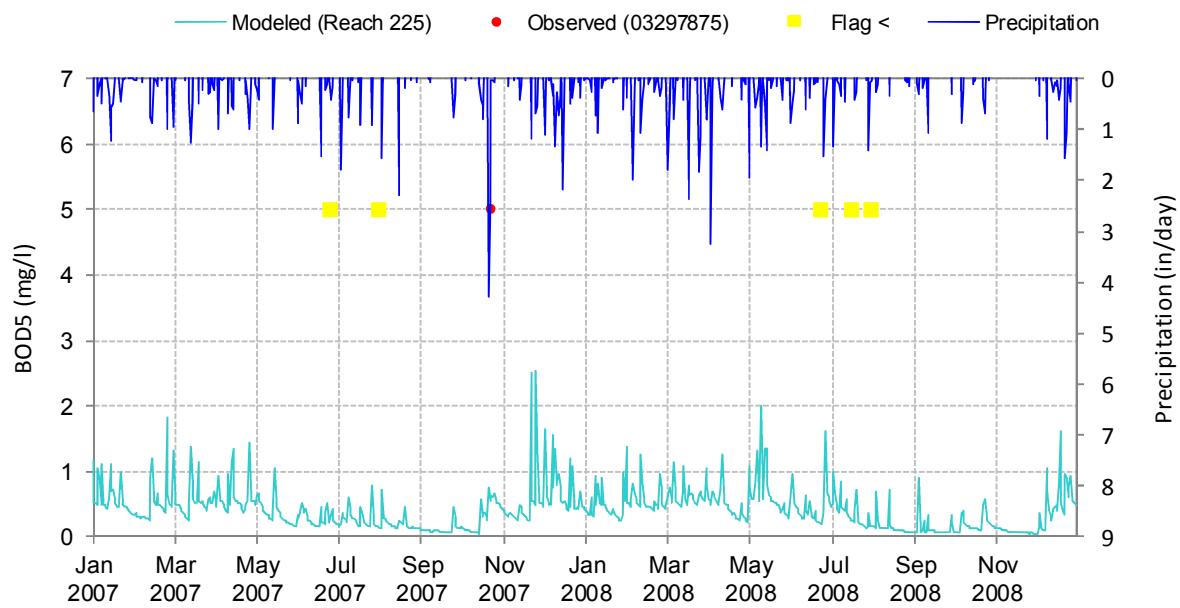


Figure B-54 Modeled vs. Observed BOD5 (mg/l) at 03297875

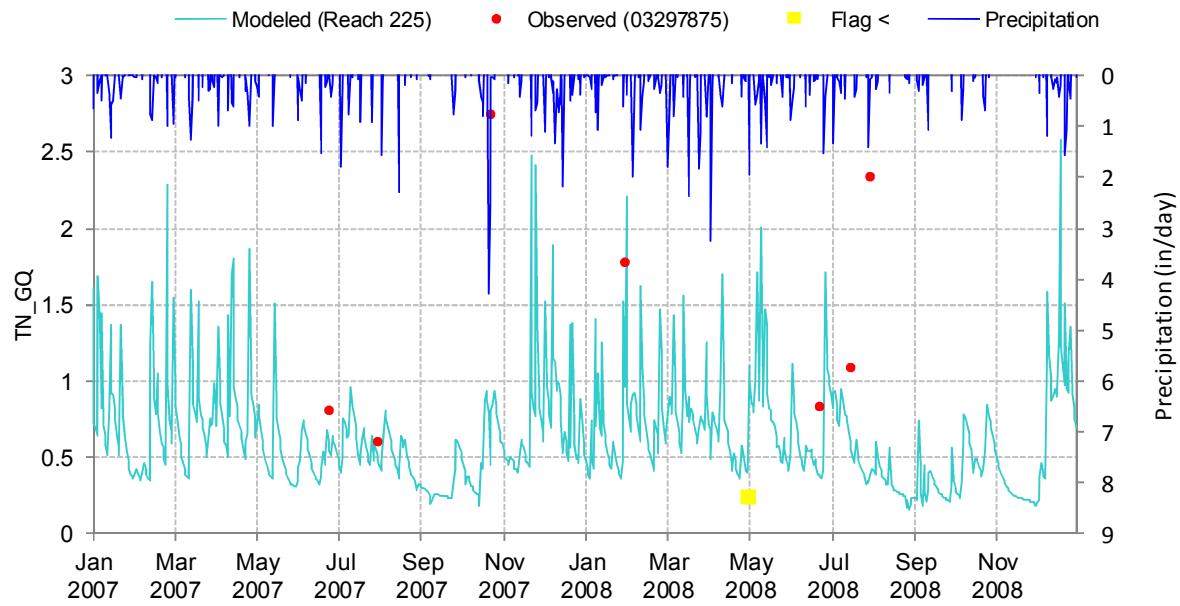


Figure B-55 Modeled vs. Observed TN_GQ at 03297875

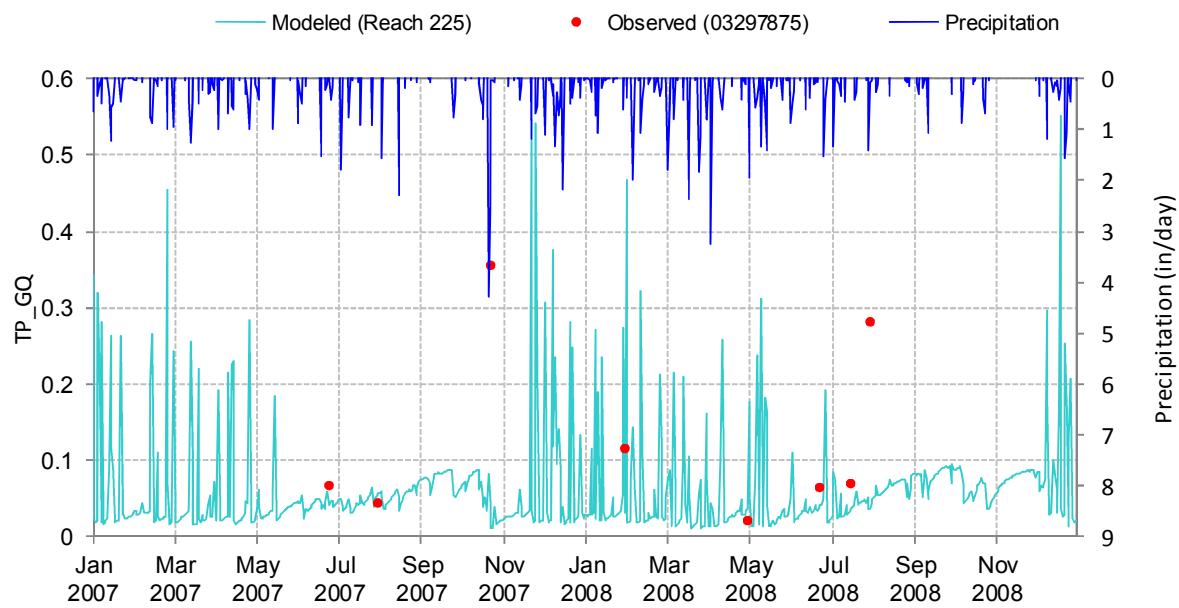


Figure B-56 Modeled vs. Observed TP_GQ at 03297875

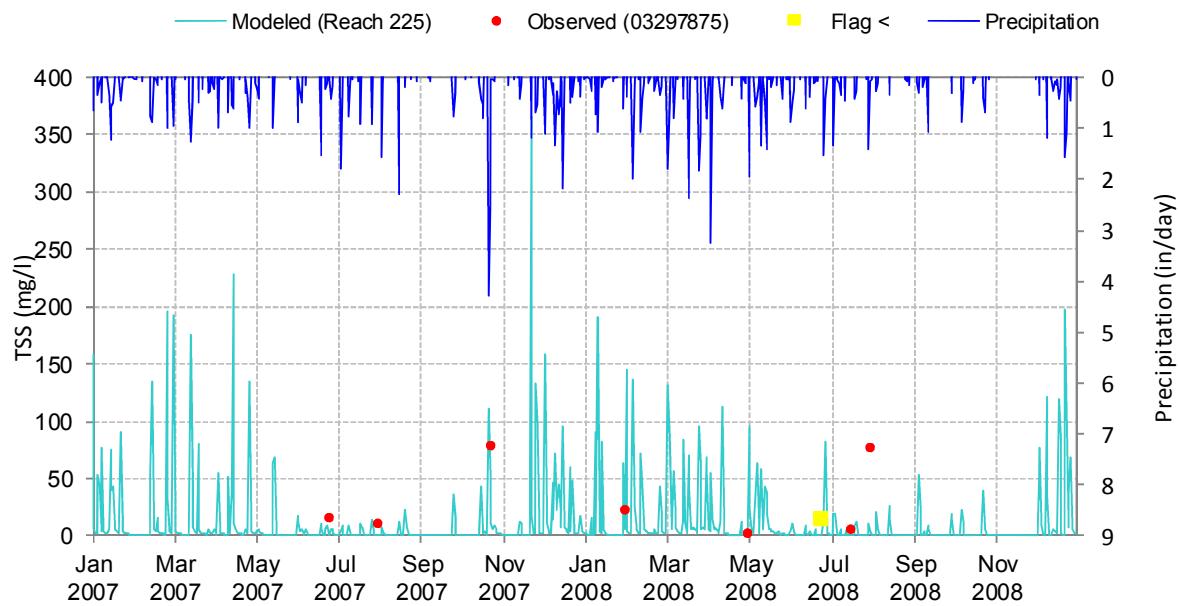


Figure B-57 Modeled vs. Observed TSS (mg/l) at 03297875

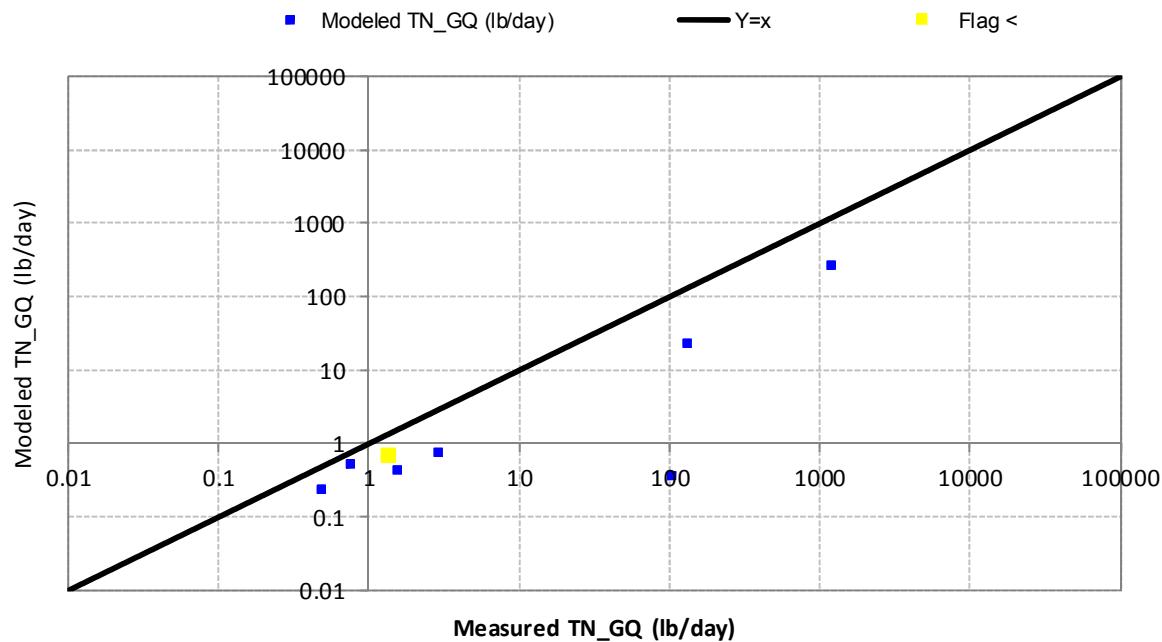


Figure B-58 Modeled vs. Observed Load TN_GQ at 03297875

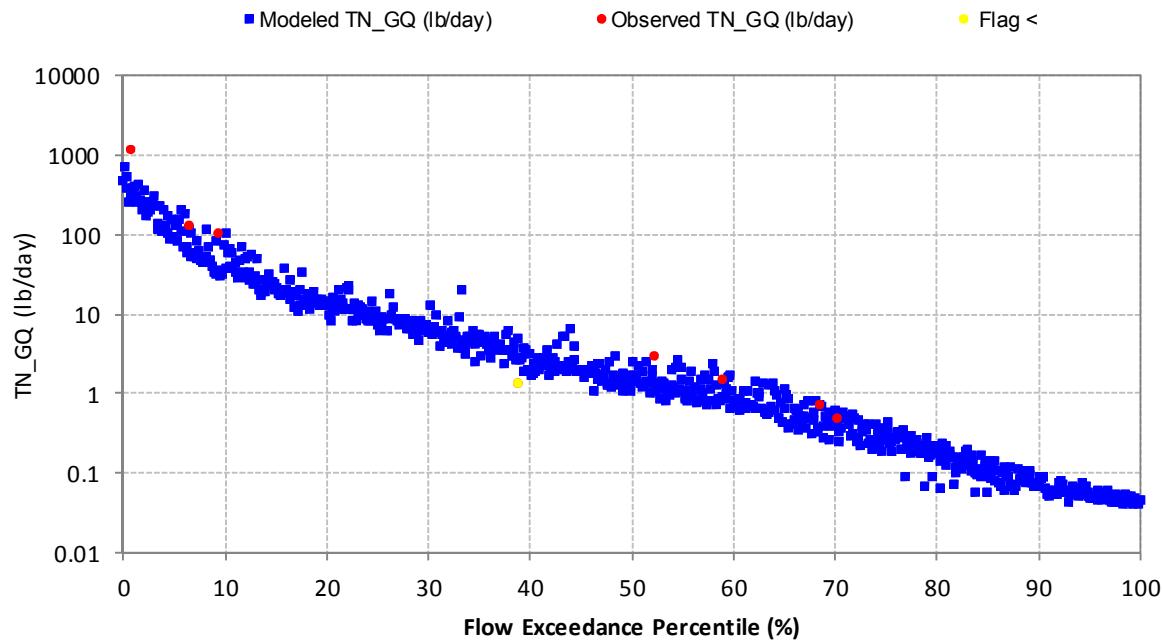


Figure B-59 Modeled vs. Observed Load TN_GQ at 03297875

Table B-12 Modeled vs. Observed Load TN_GQ at 03297875

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	7,294	13,647	-46.55	12,456	-41.44	
2008	8,421	17,876	-52.9	12,203	-30.99	

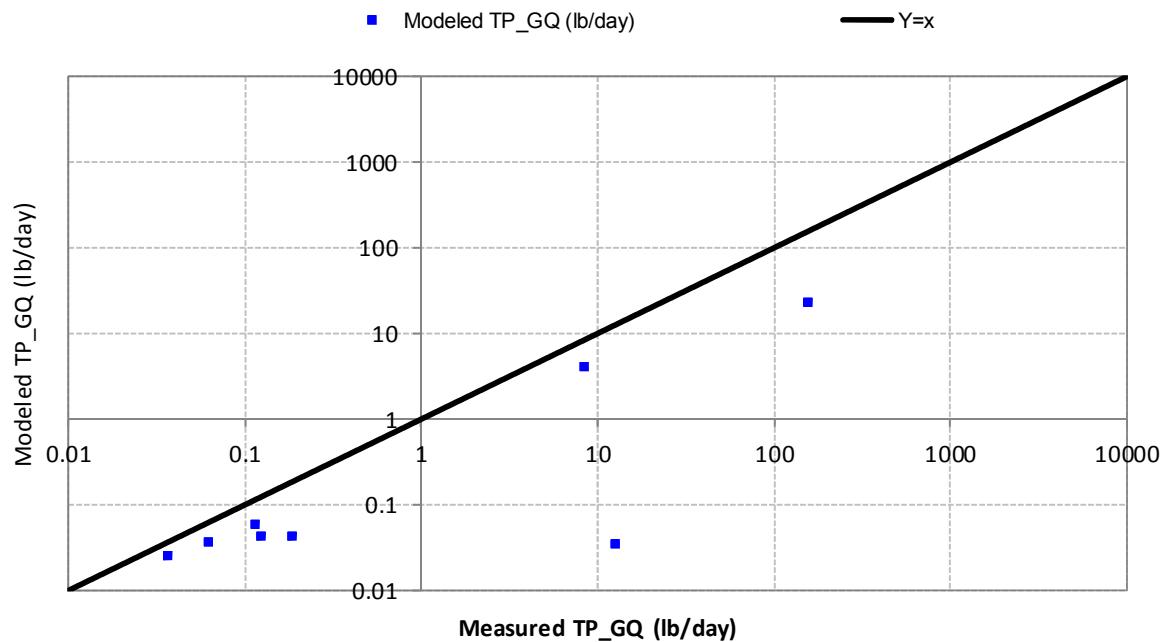


Figure B-60 Modeled vs. Observed Load TP_GQ at 03297875

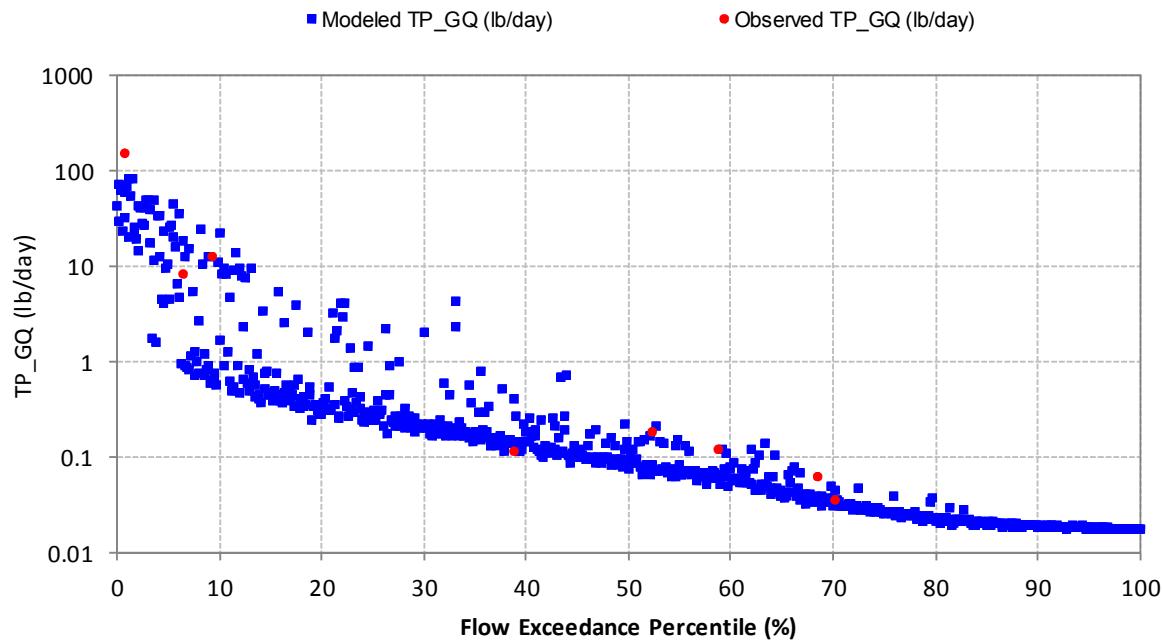


Figure B-61 Modeled vs. Observed Load TP_GQ at 03297875

Table B-13 Modeled vs. Observed Load TP_GQ at 03297875

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	912	1,588	-42.6	1,282	-28.91
2008	903	1,405	-35.73	984	-8.26

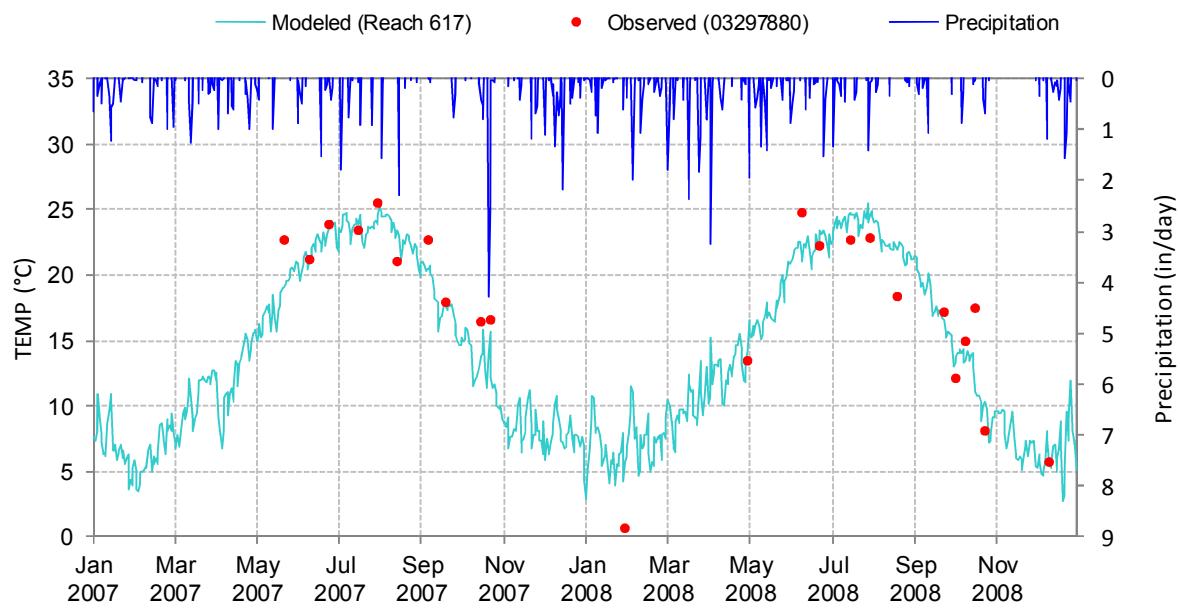


Figure B-62 Modeled vs. Observed TEMP (°C) at 03297880

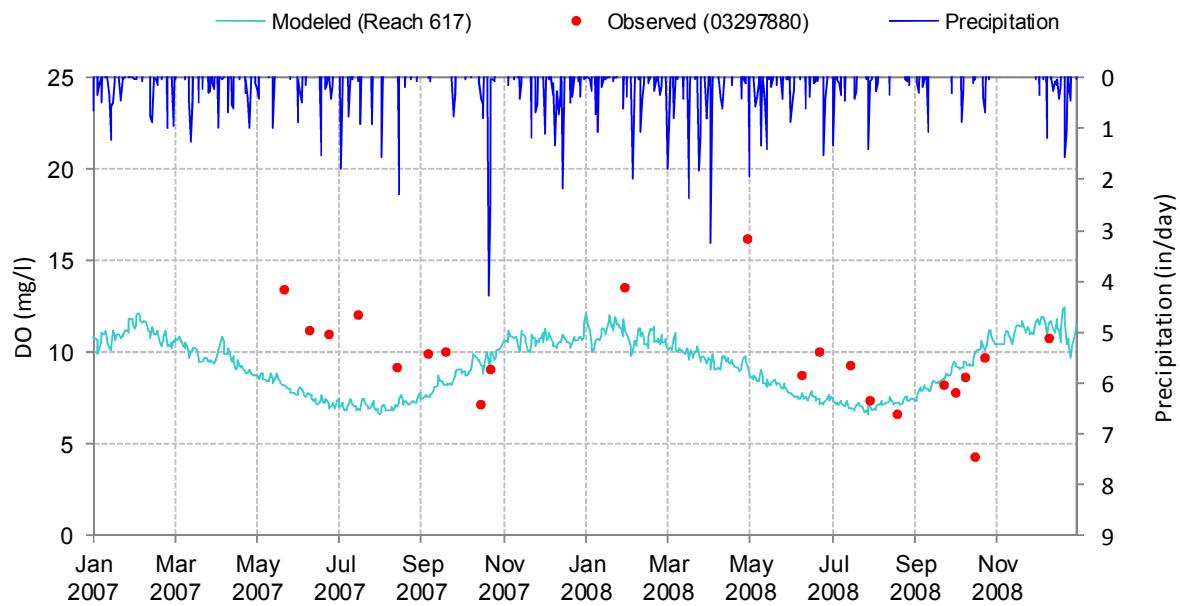


Figure B-63 Modeled vs. Observed DO (mg/l) at 03297880

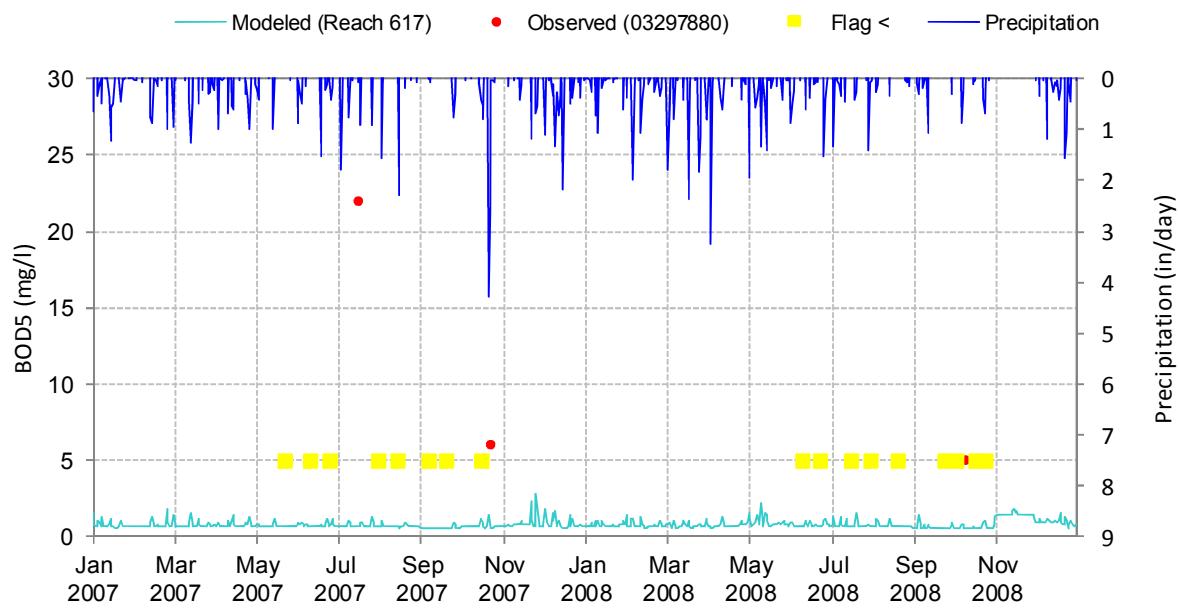


Figure B-64 Modeled vs. Observed BOD5 (mg/l) at 03297880

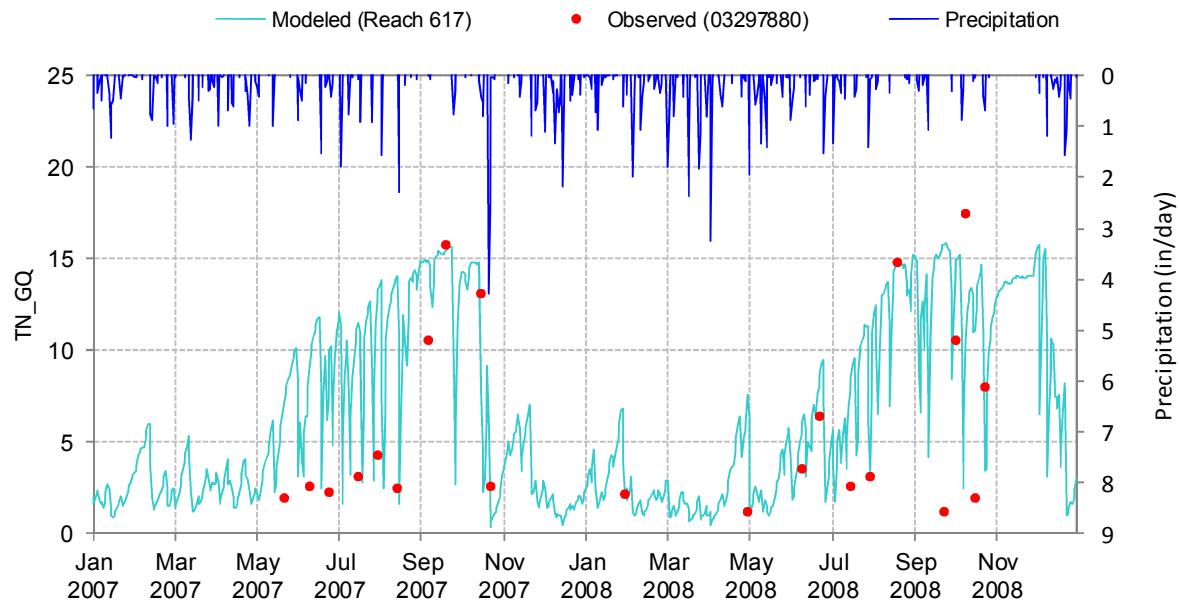


Figure B-65 Modeled vs. Observed TN_GQ at 03297880

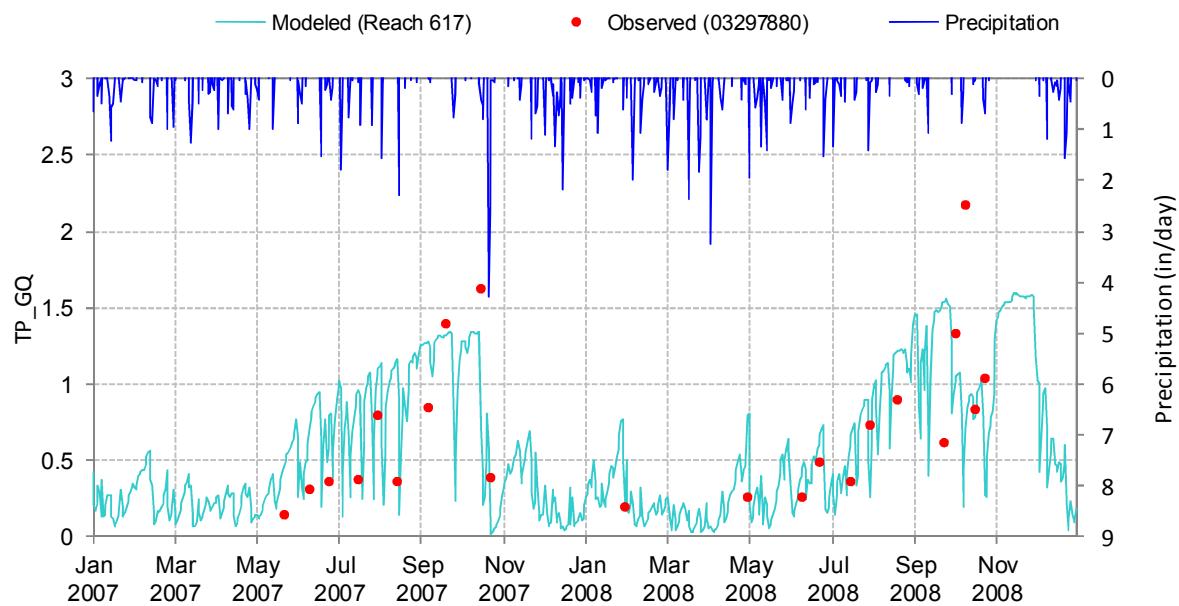


Figure B-66 Modeled vs. Observed TP_GQ at 03297880

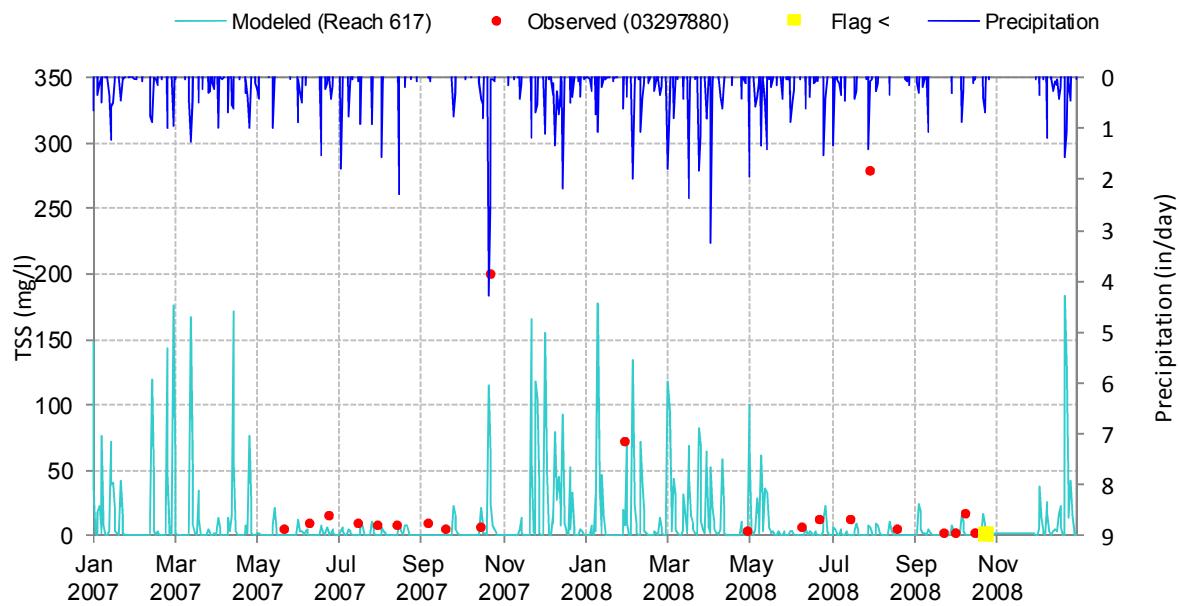


Figure B-67 Modeled vs. Observed TSS (mg/l) at 03297880

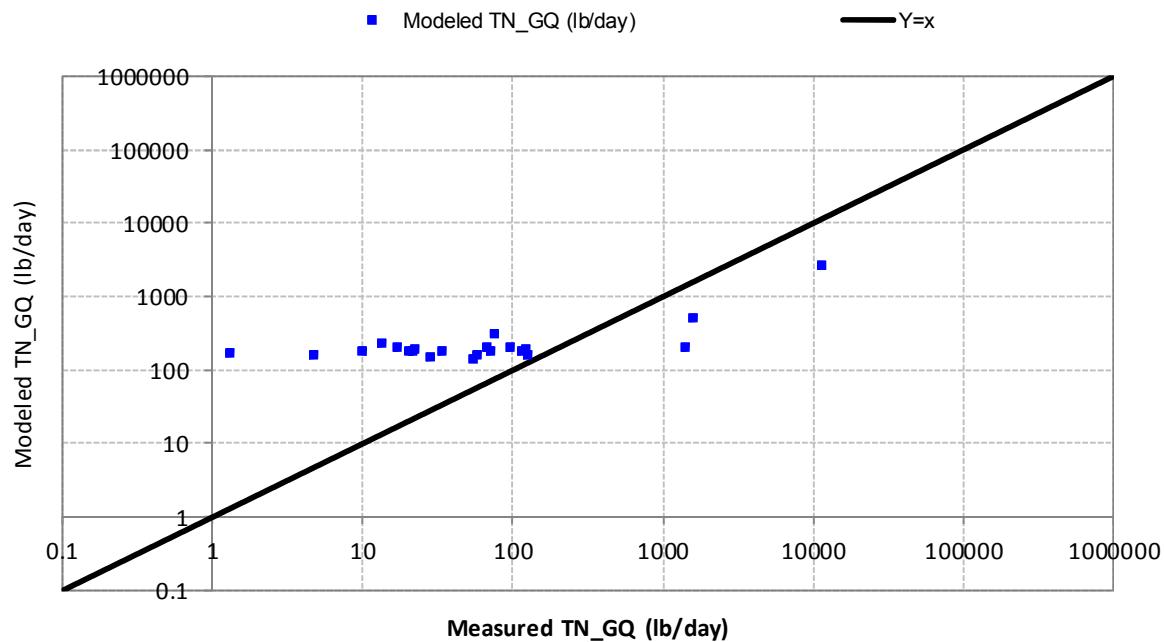


Figure B-68 Modeled vs. Observed Load TN_GQ at 03297880

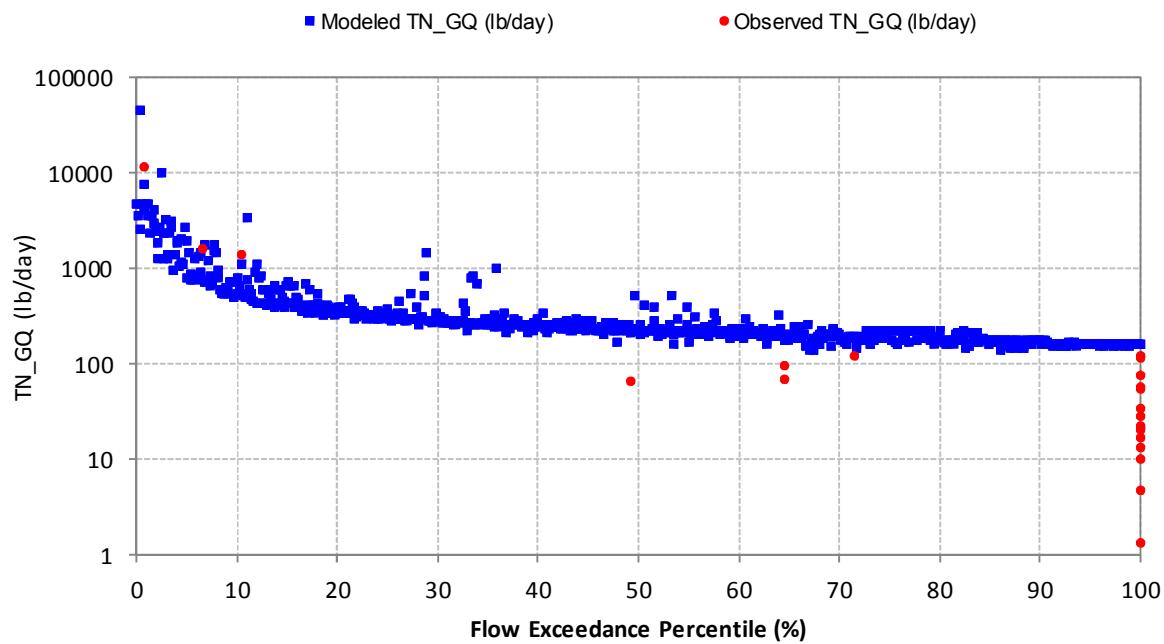


Figure B-69 Modeled vs. Observed Load TN_GQ at 03297880

Table B-14 Modeled vs. Observed Load TN_GQ at 03297880

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	182,841	195,818	-6.63	189,658	-3.59
2008	175,381	266,372	-34.16	243,078	-27.85

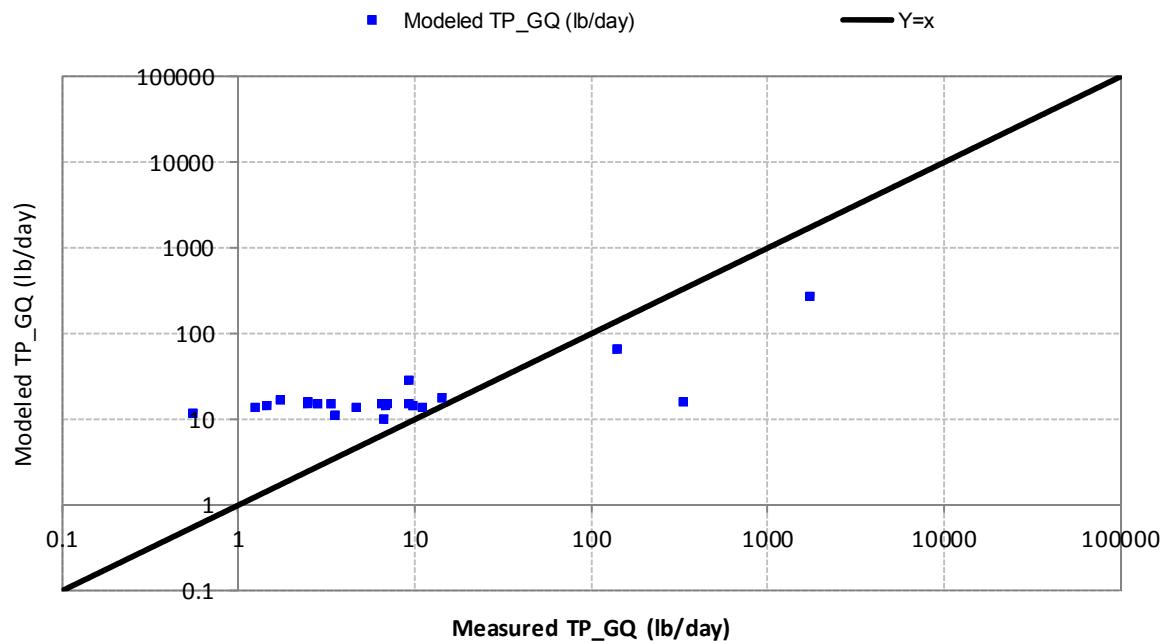


Figure B-70 Modeled vs. Observed Load TP_GQ at 03297880

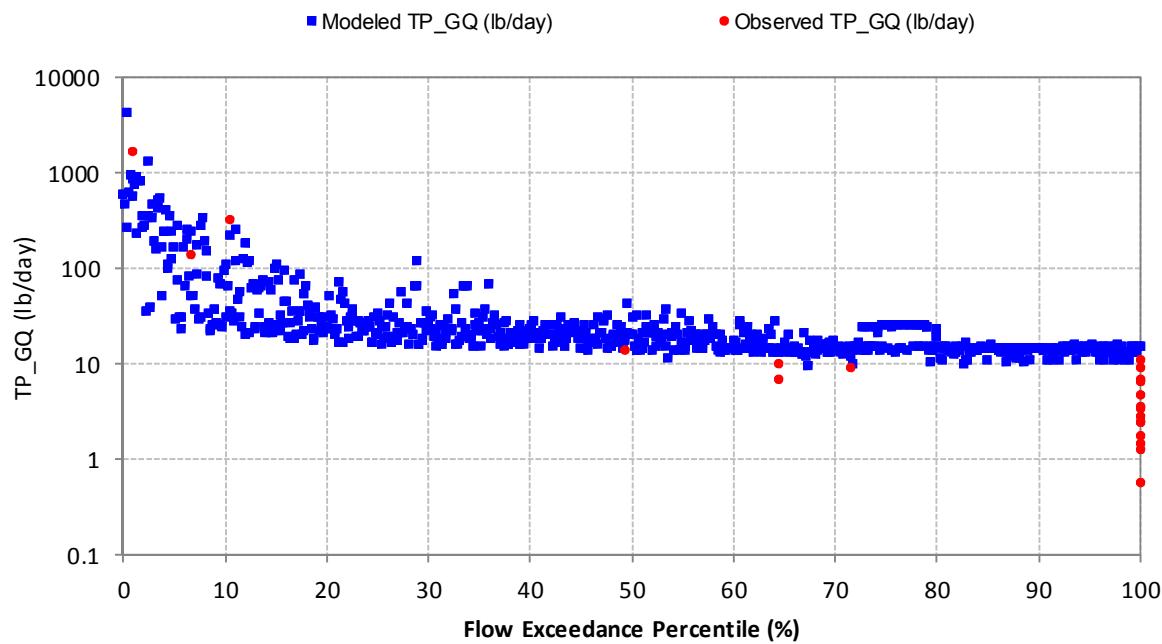


Figure B-71 Modeled vs. Observed Load TP_GQ at 03297880

Table B-15 Modeled vs. Observed Load TP_GQ at 03297880

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	19,381	22,031	-12.03	19,421	-0.2
2008	19,085	29,270	-34.8	31,169	-38.77

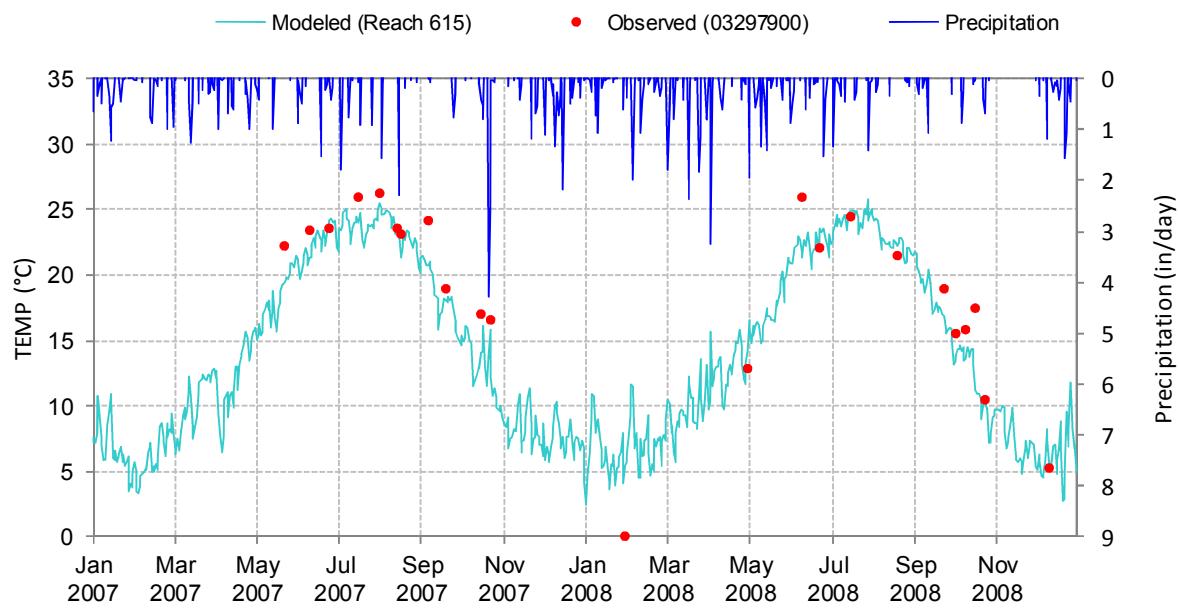


Figure B-72 Modeled vs. Observed TEMP (°C) at 03297900

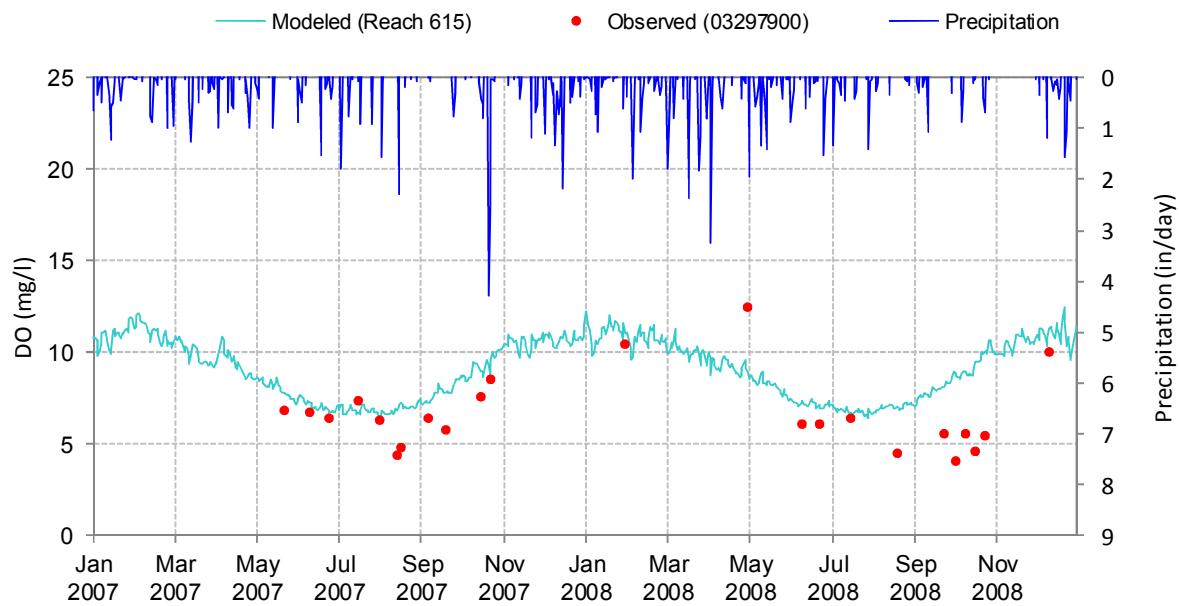


Figure B-73 Modeled vs. Observed DO (mg/l) at 03297900

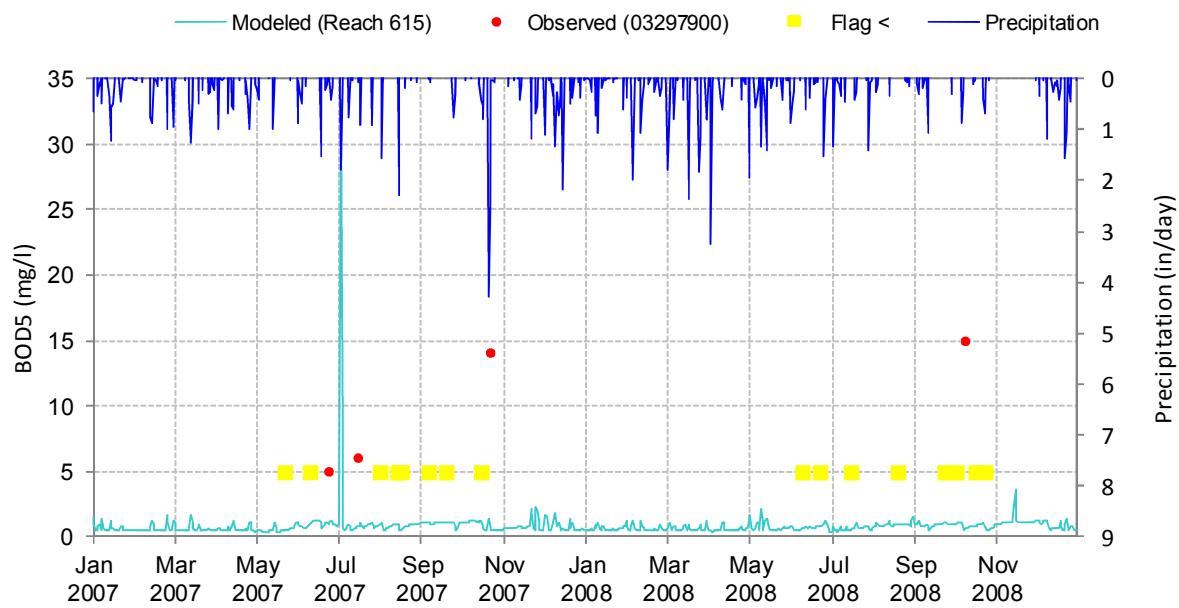


Figure B-74 Modeled vs. Observed BOD5 (mg/l) at 03297900

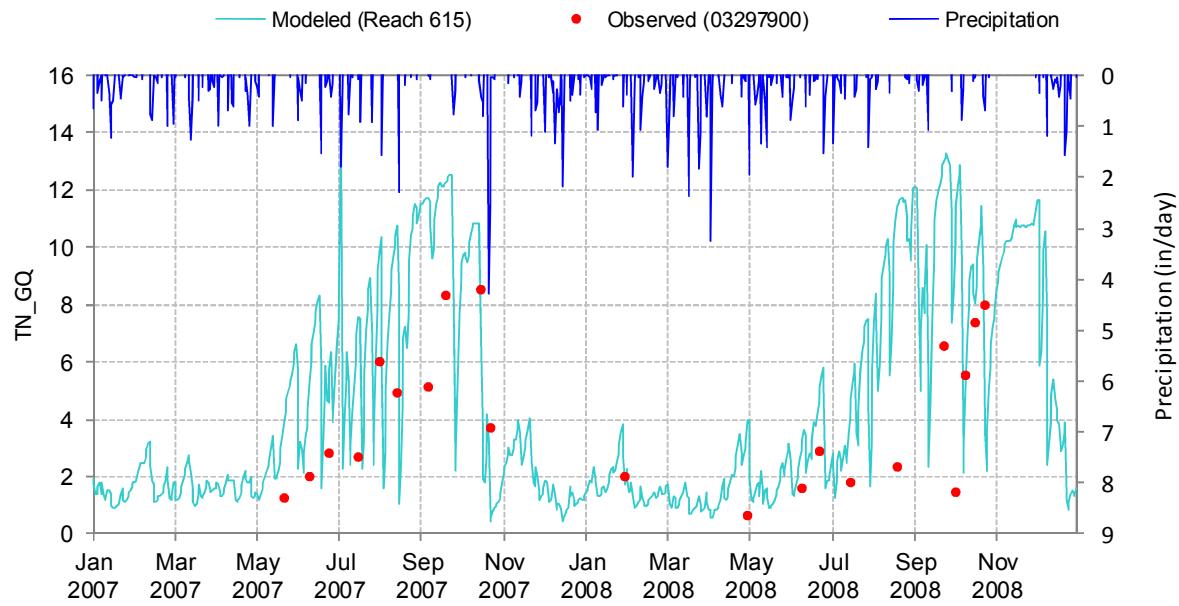


Figure B-75 Modeled vs. Observed TN_GQ at 03297900

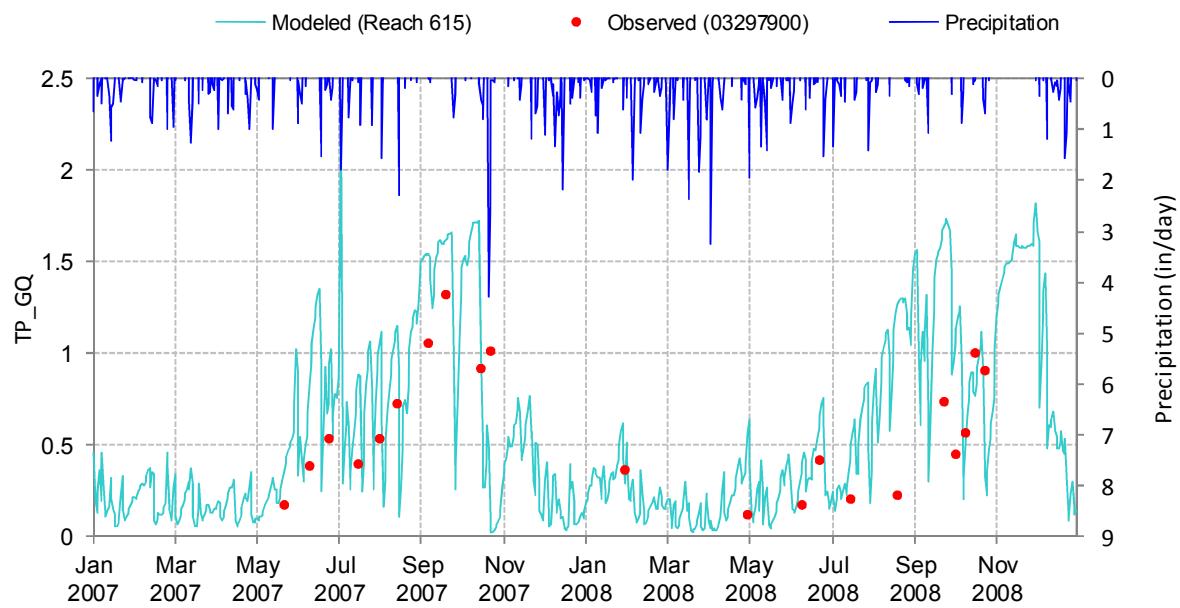


Figure B-76 Modeled vs. Observed TP_GQ at 03297900

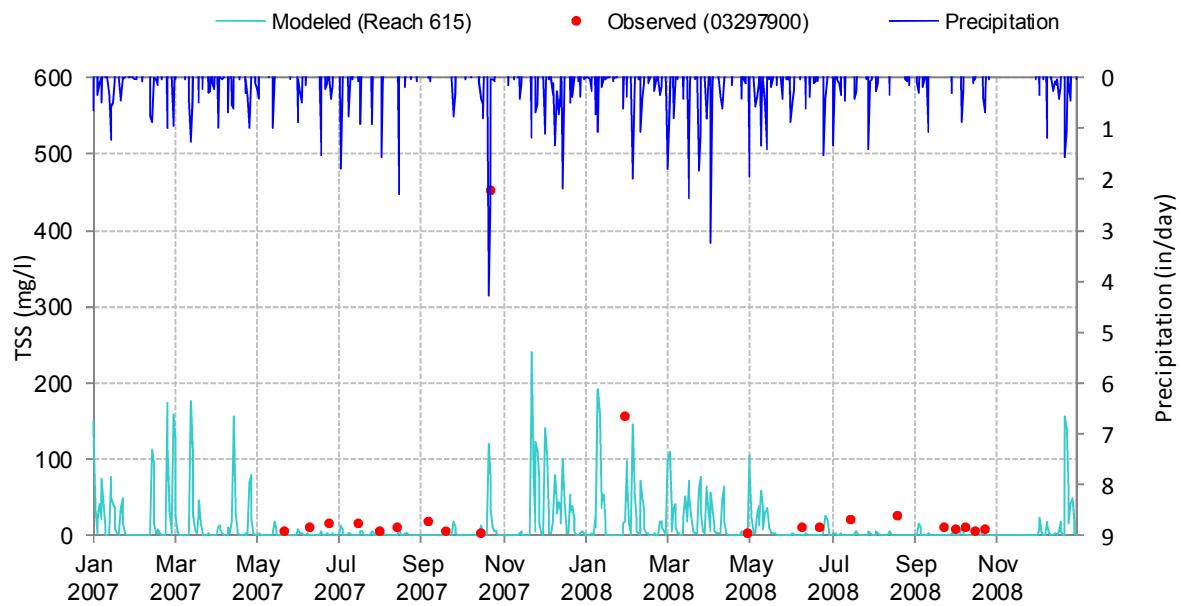


Figure B-77 Modeled vs. Observed TSS (mg/l) at 03297900

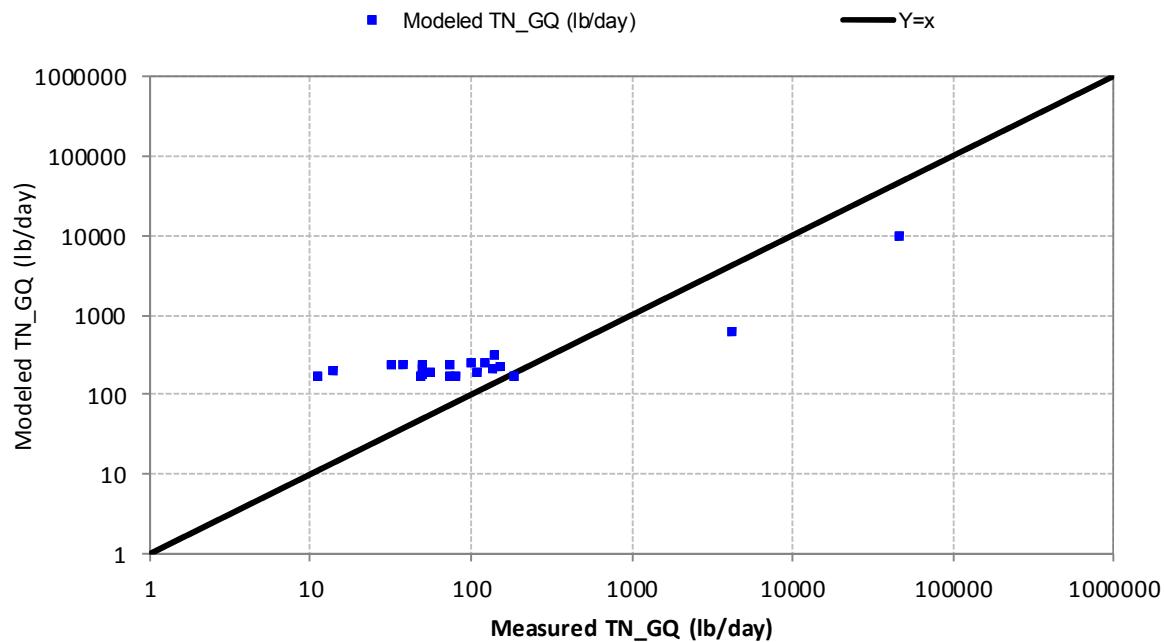


Figure B-78 Modeled vs. Observed Load TN_GQ at 03297900

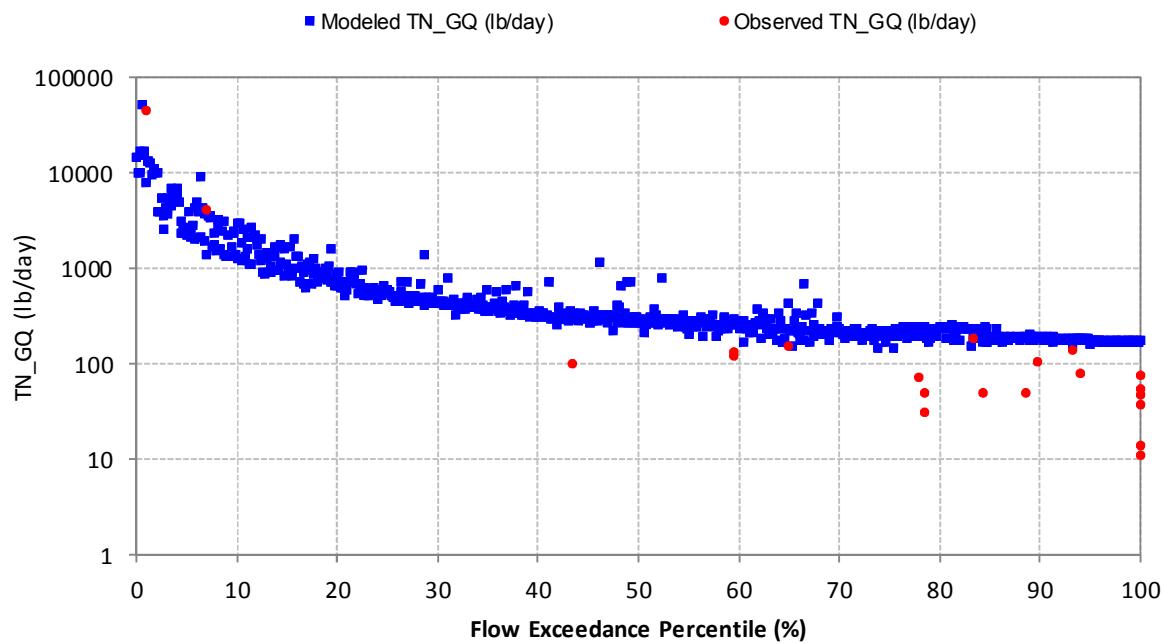


Figure B-79 Modeled vs. Observed Load TN_GQ at 03297900

Table B-16 Modeled vs. Observed Load TN_GQ at 03297900

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	336,462	568,866	-40.85	505,628	-33.46	
2008	360,489	690,973	-47.83	534,636	-32.57	

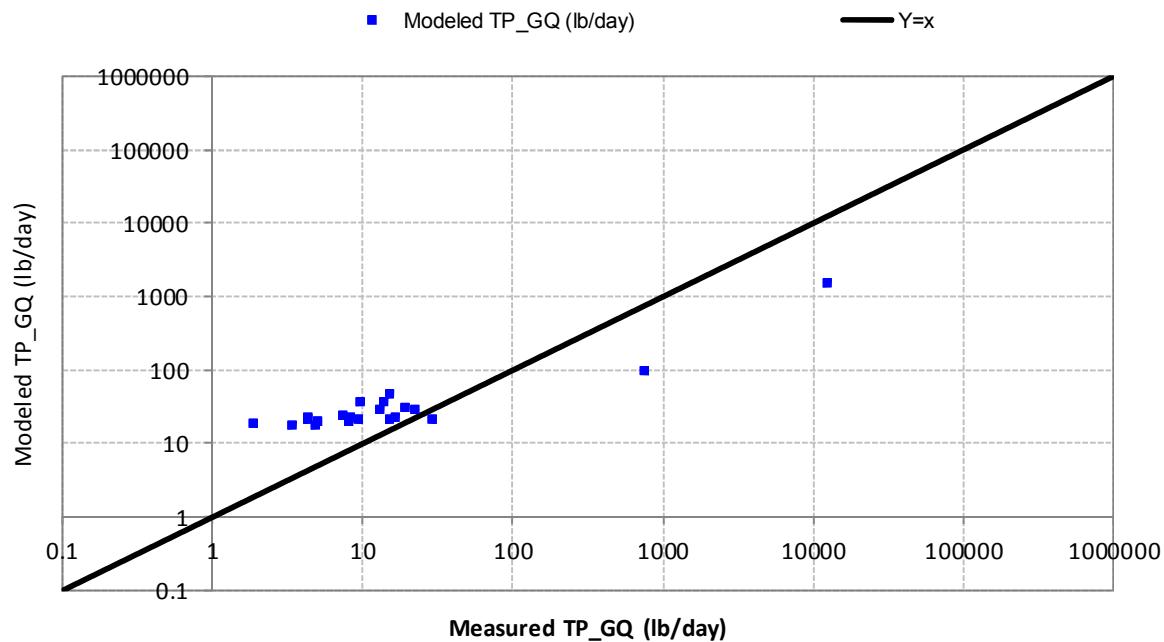


Figure B-80 Modeled vs. Observed Load TP_GQ at 03297900

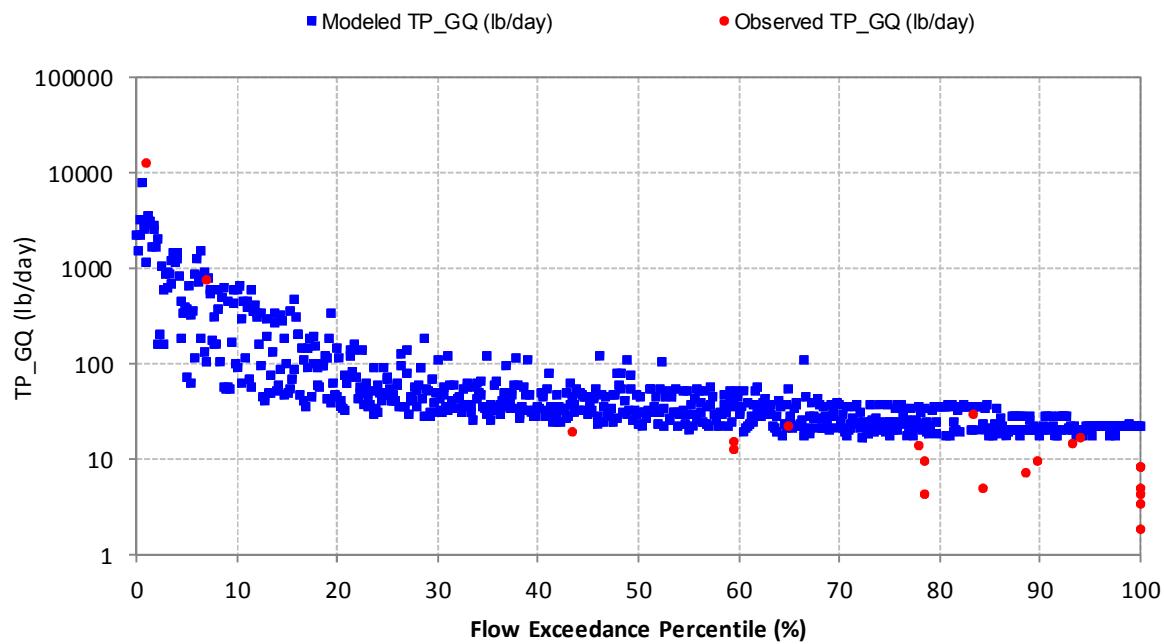


Figure B-81 Modeled vs. Observed Load TP_GQ at 03297900

Table B-17 Modeled vs. Observed Load TP_GQ at 03297900

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	53,555	127,893	-58.12	104,104	-48.56
2008	56,216	124,603	-54.88	89,418	-37.13

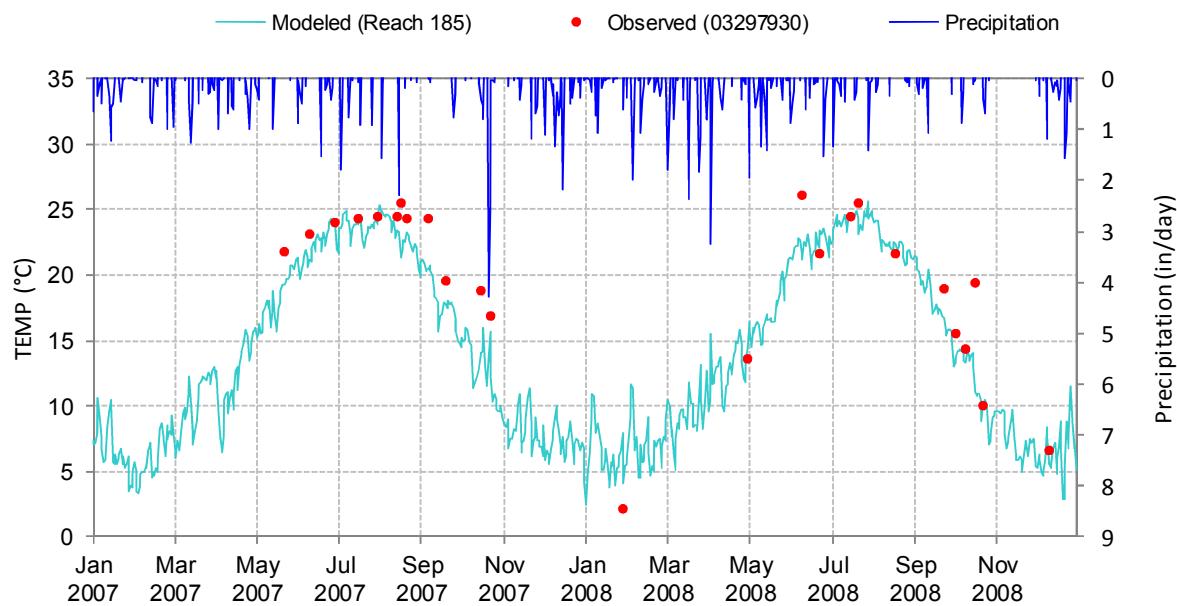


Figure B-82 Modeled vs. Observed TEMP (°C) at 03297930

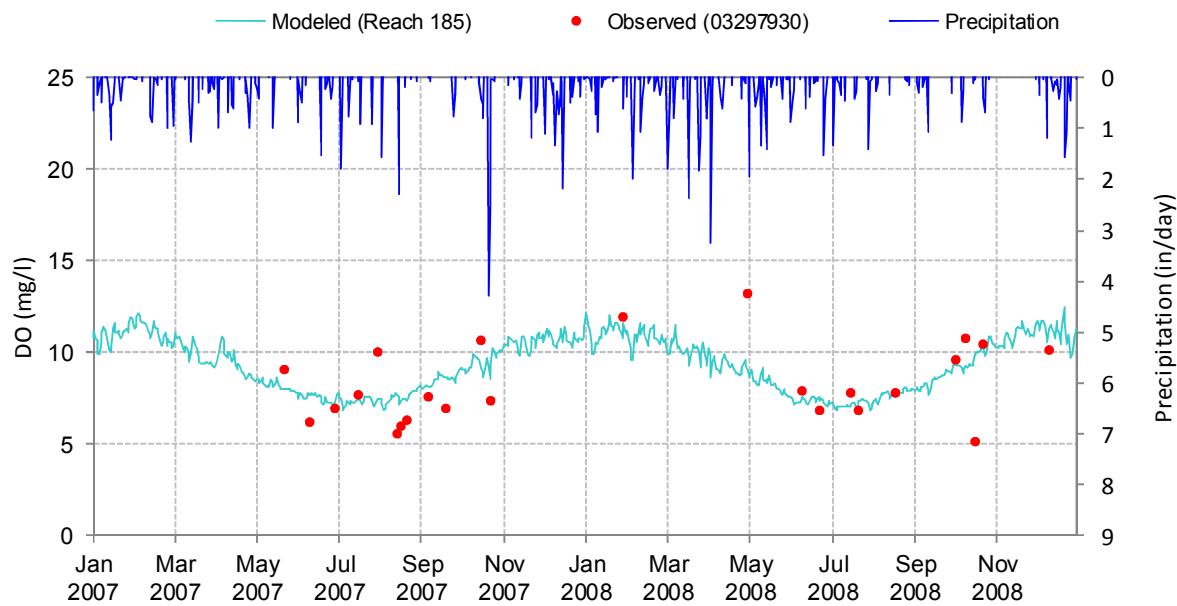


Figure B-83 Modeled vs. Observed DO (mg/l) at 03297930

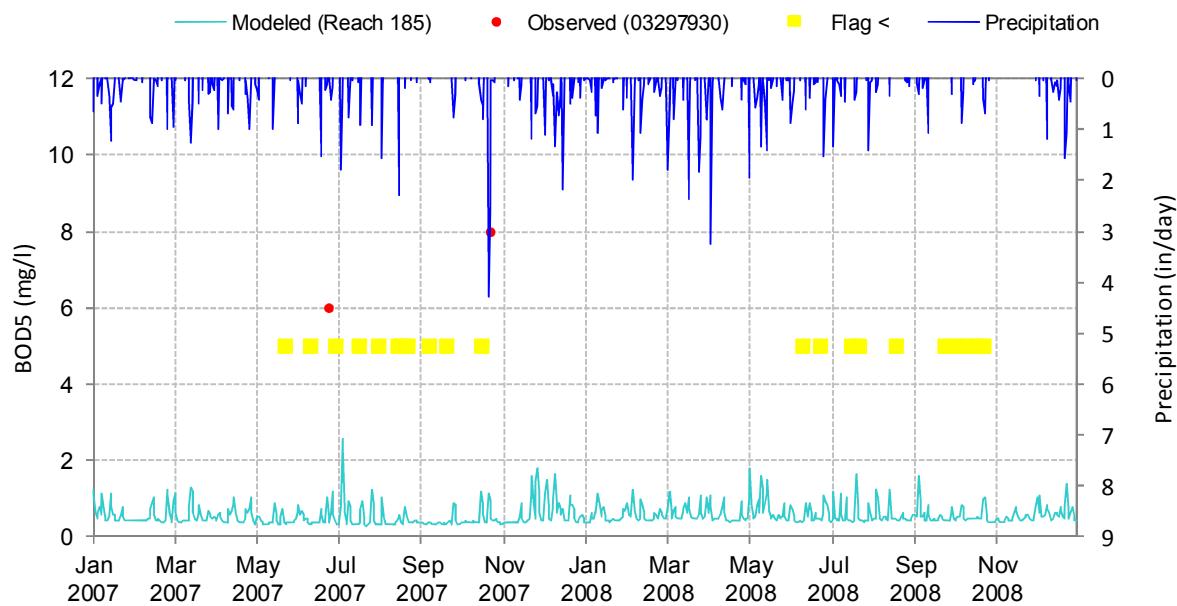


Figure B-84 Modeled vs. Observed BOD5 (mg/l) at 03297930

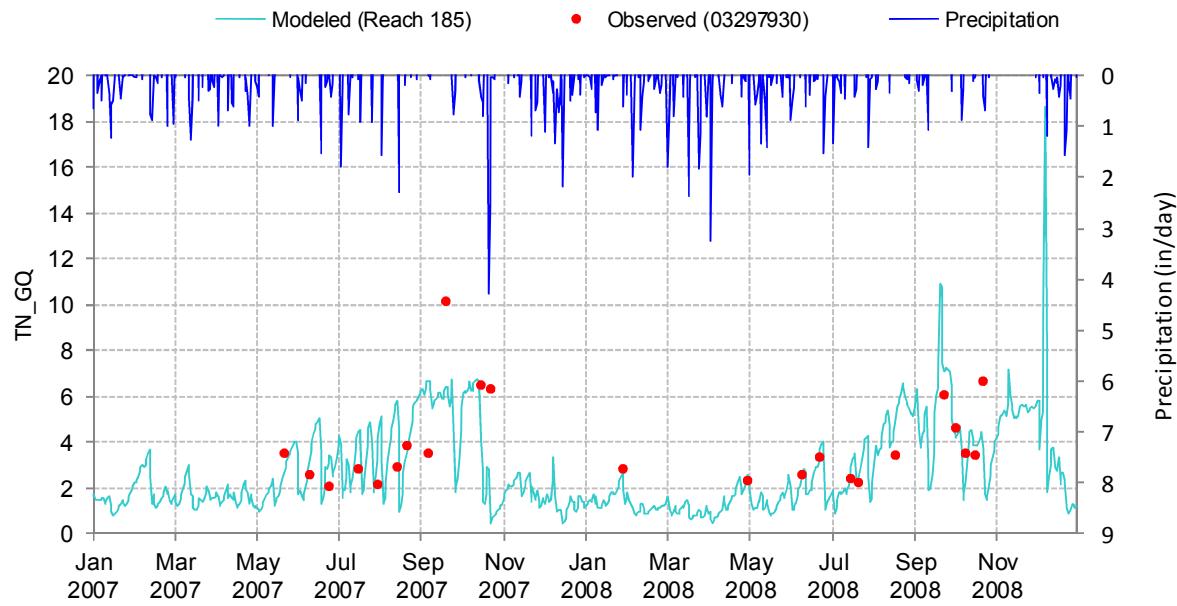


Figure B-85 Modeled vs. Observed TN_GQ at 03297930

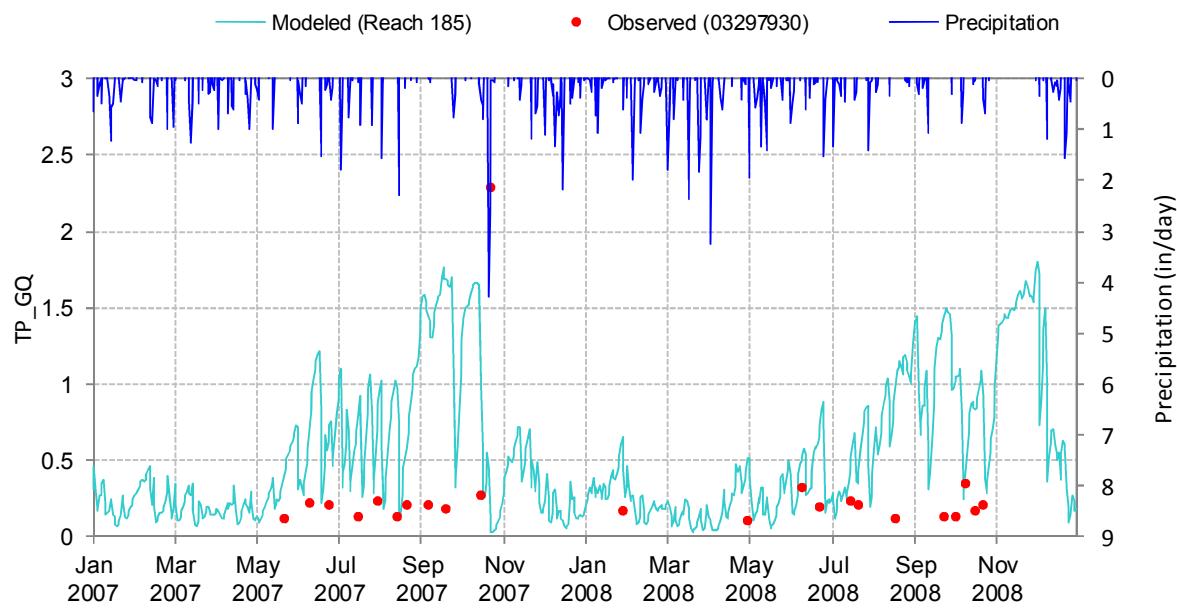


Figure B-86 Modeled vs. Observed TP_GQ at 03297930

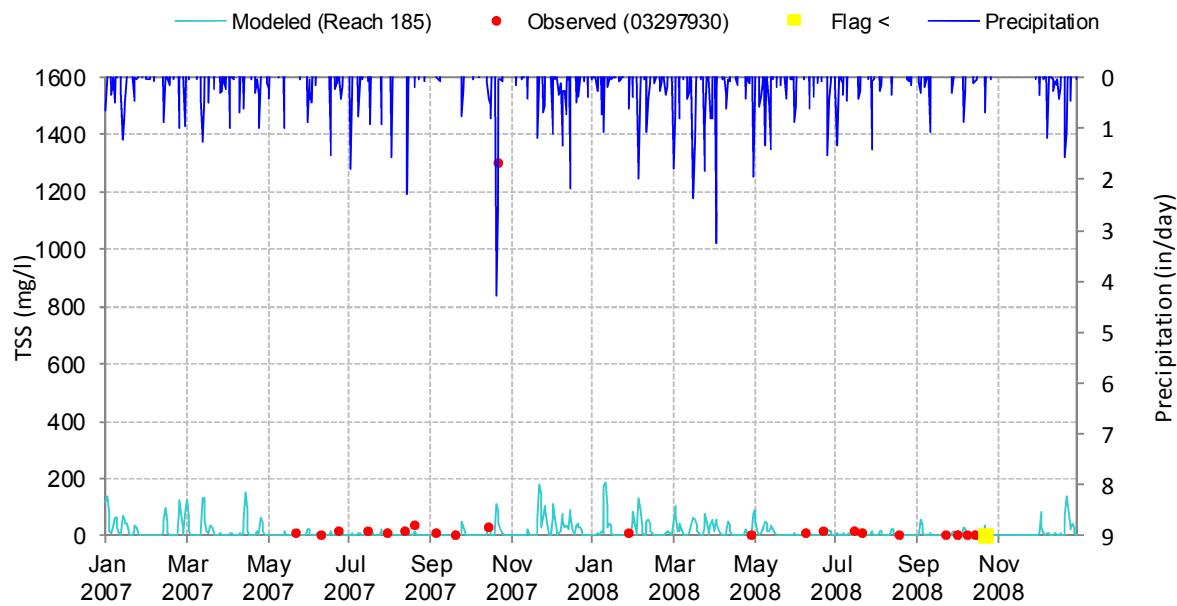


Figure B-87 Modeled vs. Observed TSS (mg/l) at 03297930

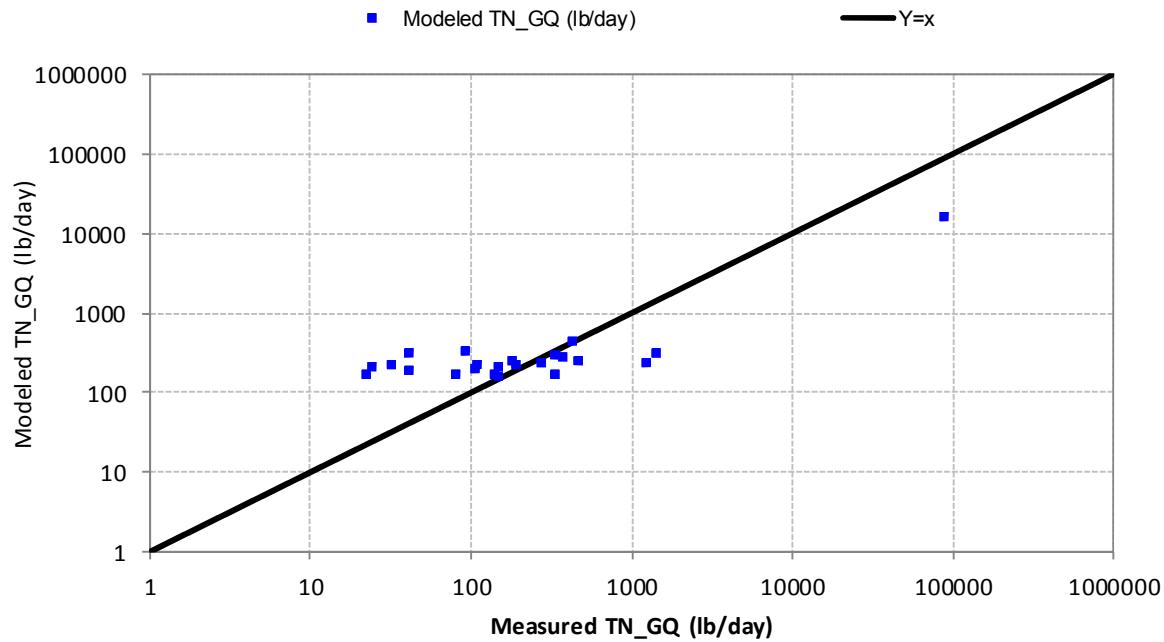


Figure B-88 Modeled vs. Observed Load TN_GQ at 03297930

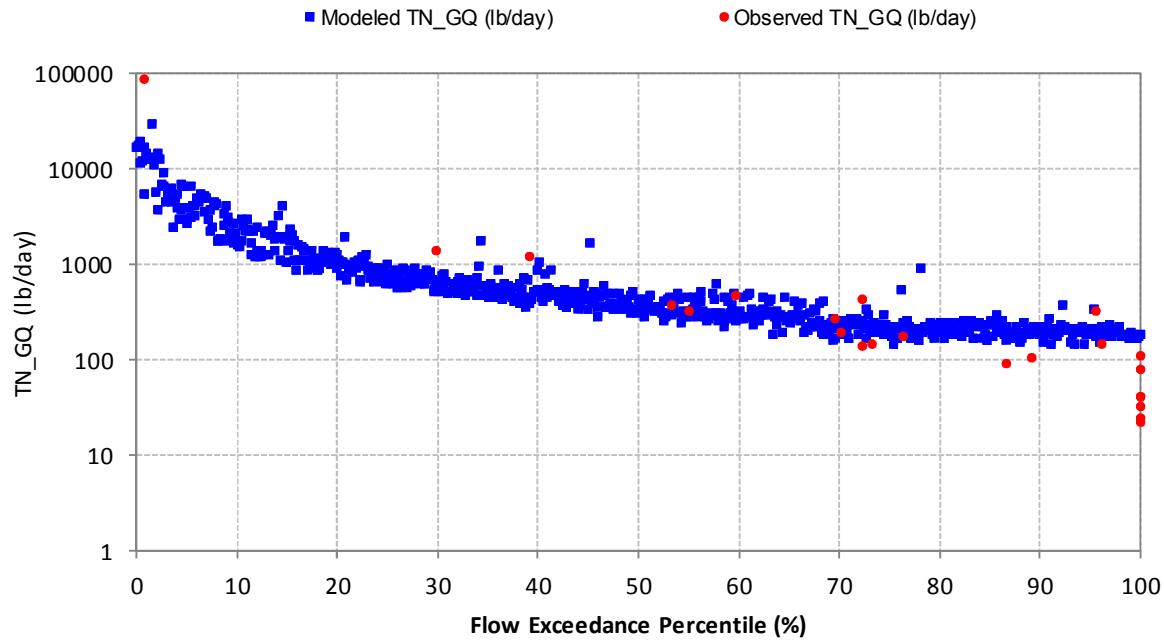


Figure B-89 Modeled vs. Observed Load TN_GQ at 03297930

Table B-18 Modeled vs. Observed Load TN_GQ at 03297930

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	393,493	1,495,328		-73.69	1,331,863	-70.46
2008	420,483	1,264,389		-66.74	1,120,443	-62.47

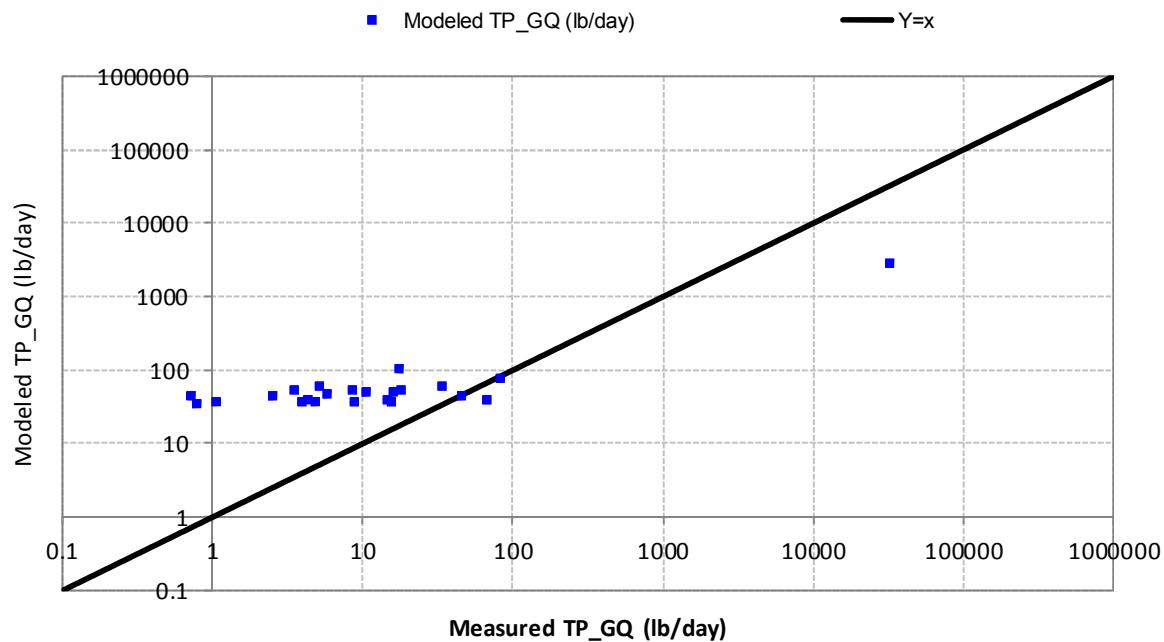


Figure B-90 Modeled vs. Observed Load TP_GQ at 03297930

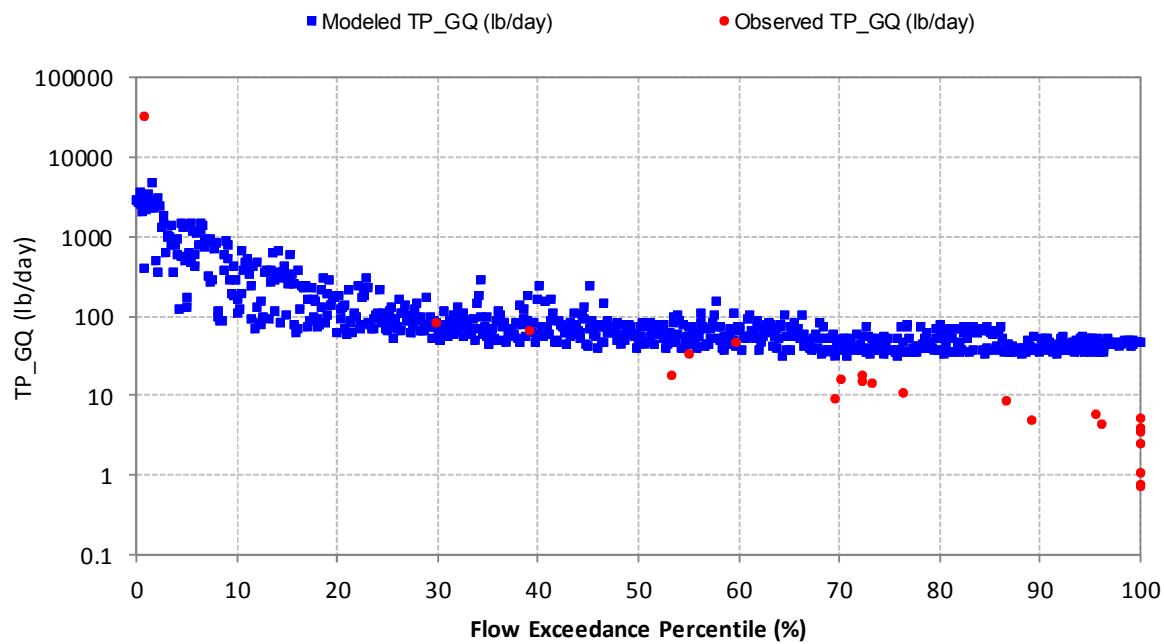


Figure B-91 Modeled vs. Observed Load TP_GQ at 03297930

Table B-19 Modeled vs. Observed Load TP_GQ at 03297930

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	65,839	306,717	-78.53	209,623	-68.59
2008	73,951	125,176	-40.92	74,601	-0.87

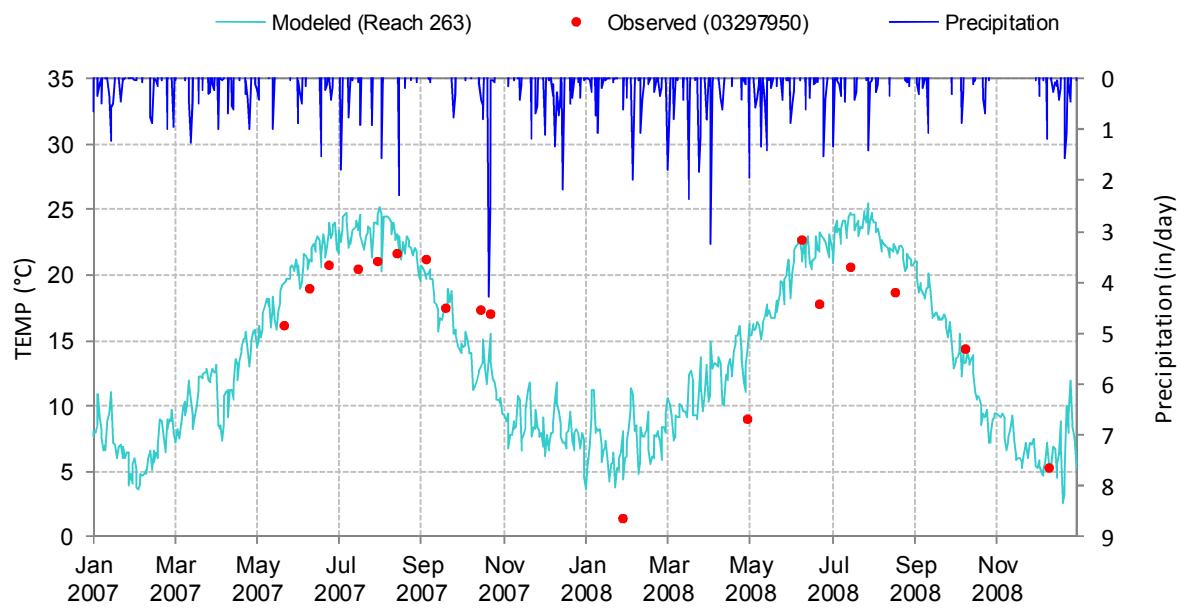


Figure B-92 Modeled vs. Observed TEMP (°C) at 03297950

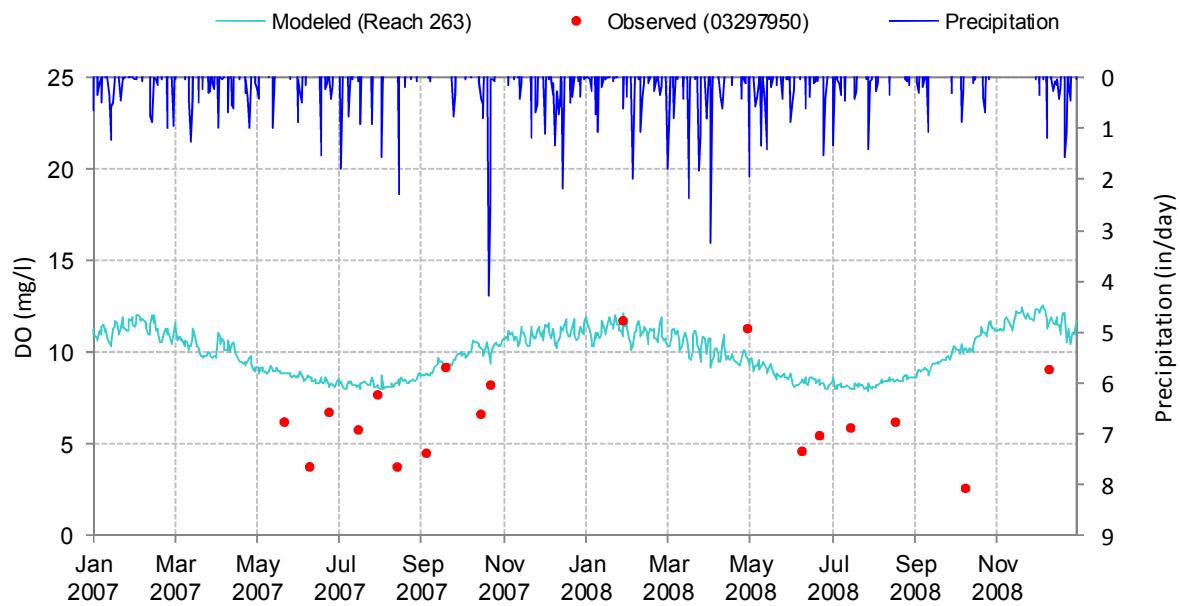


Figure B-93 Modeled vs. Observed DO (mg/l) at 03297950

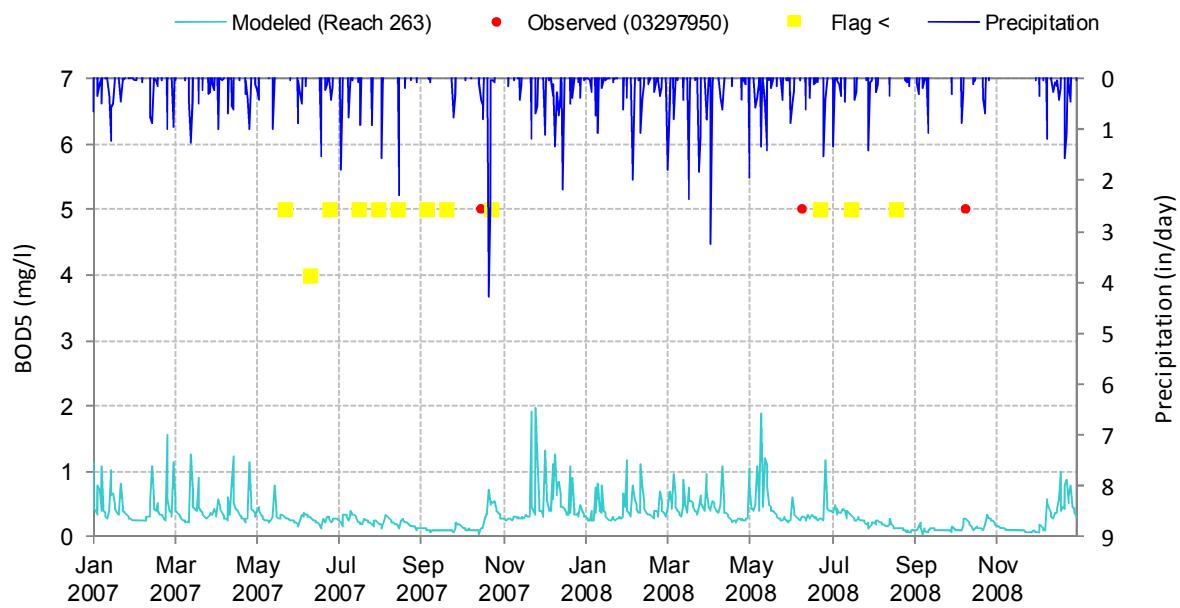


Figure B-94 Modeled vs. Observed BOD5 (mg/l) at 03297950

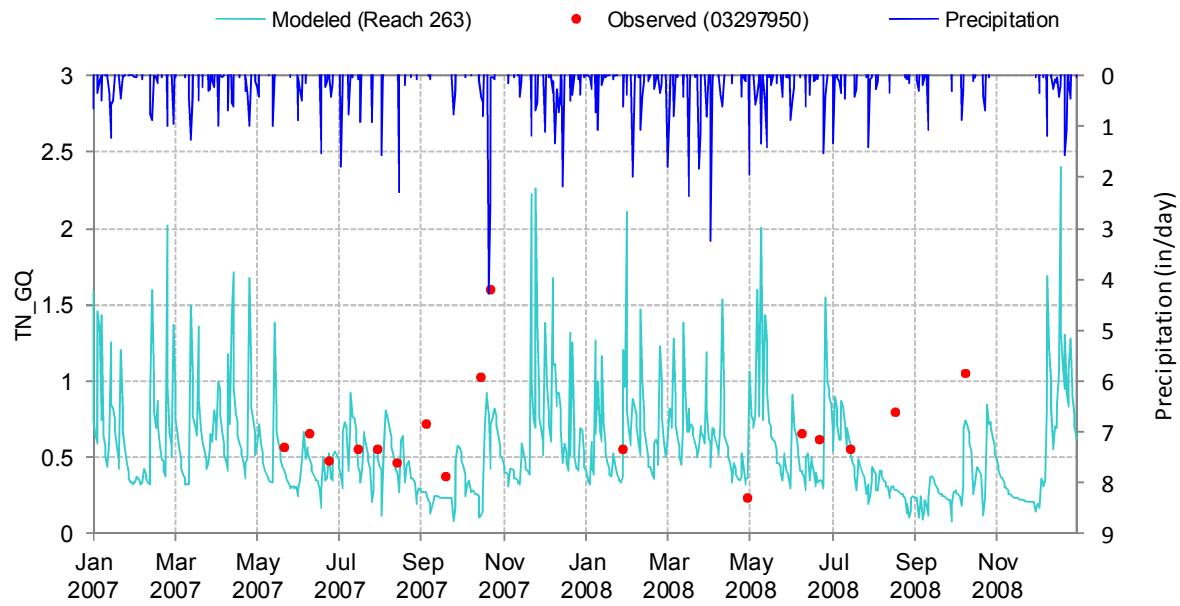


Figure B-95 Modeled vs. Observed TN_GQ at 03297950

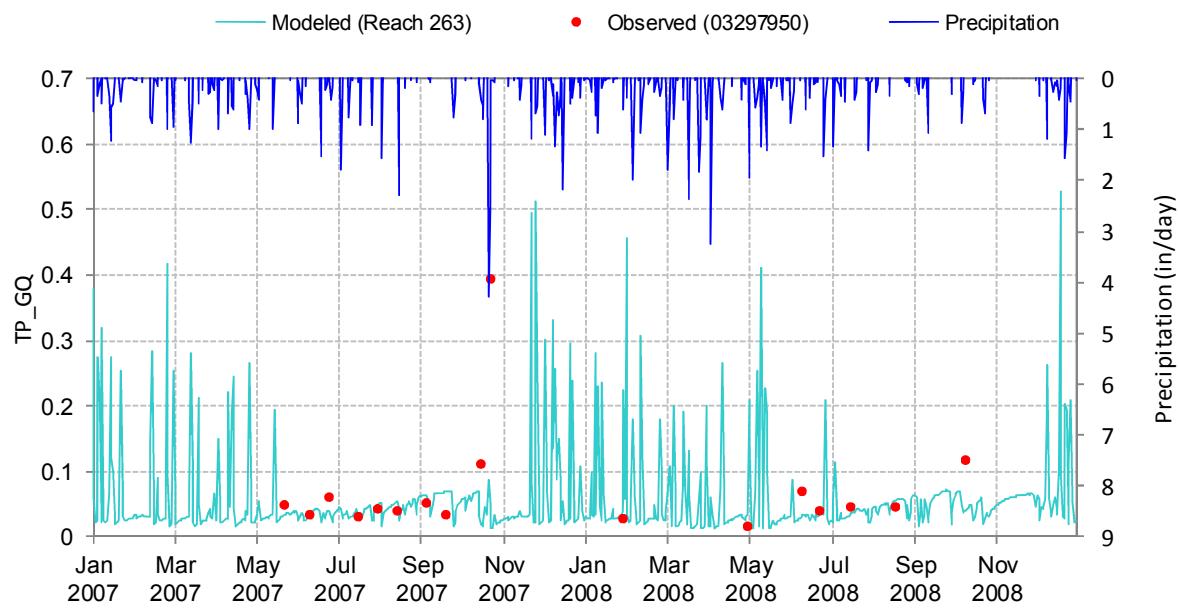


Figure B-96 Modeled vs. Observed TP_GQ at 03297950

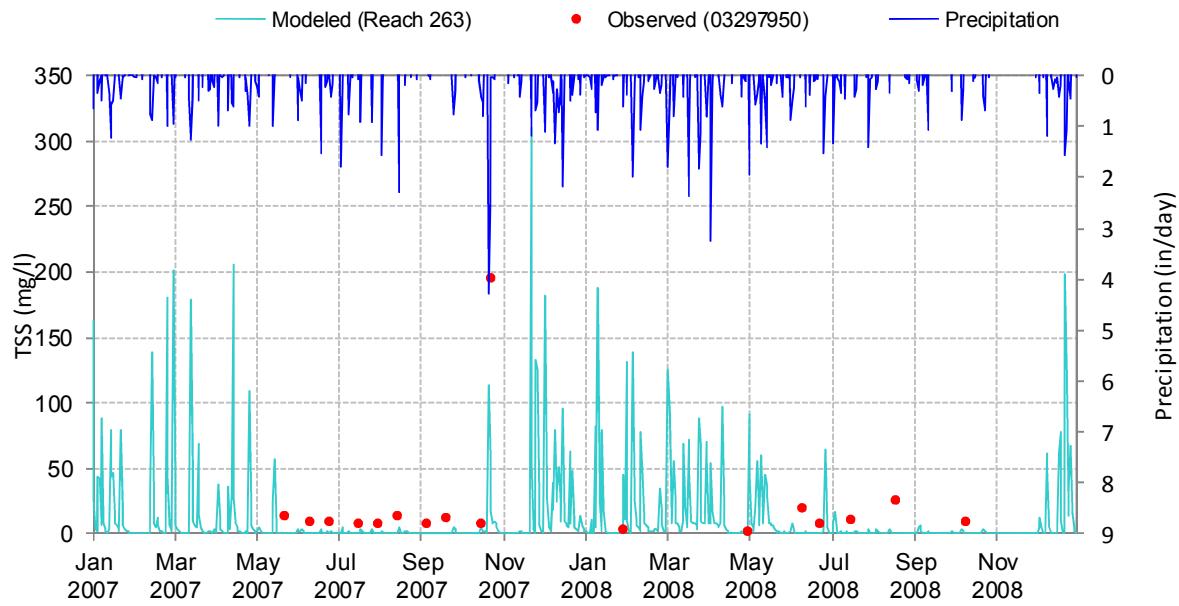


Figure B-97 Modeled vs. Observed TSS (mg/l) at 03297950

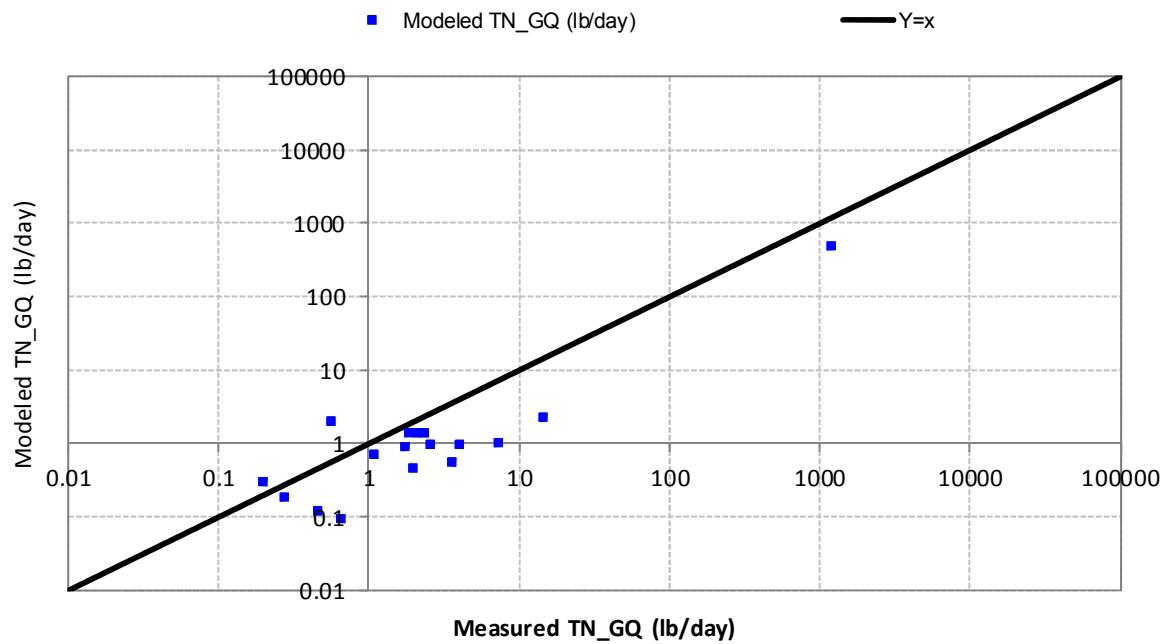


Figure B-98 Modeled vs. Observed Load TN_GQ at 03297950

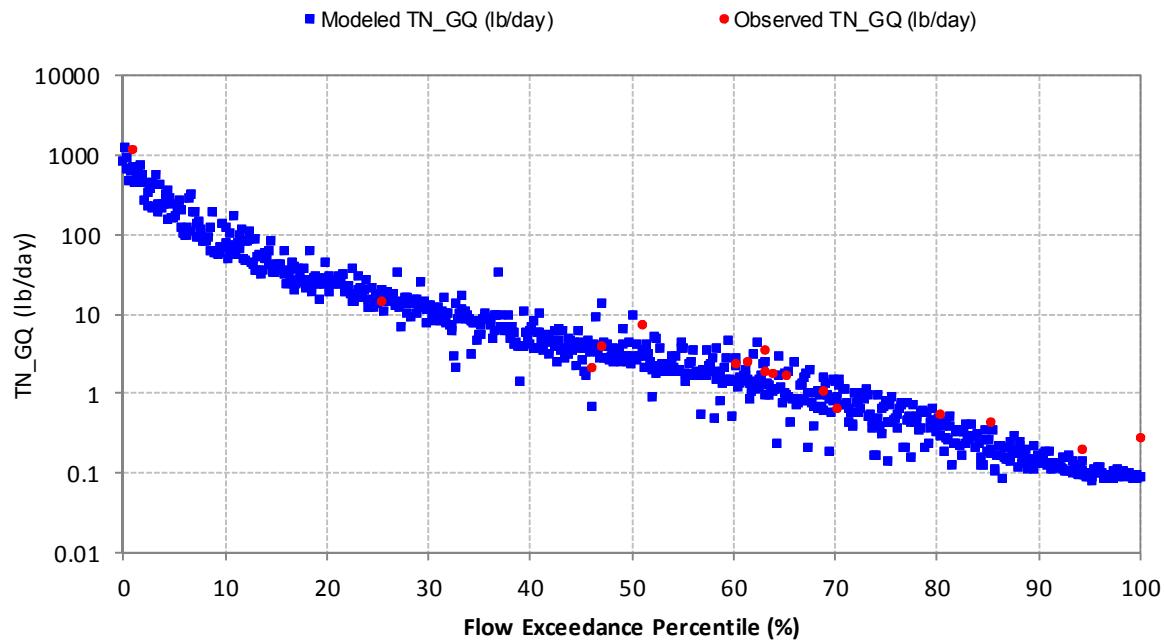


Figure B-99 Modeled vs. Observed Load TN_GQ at 03297950

Table B-20 Modeled vs. Observed Load TN_GQ at 03297950

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	12,966	16,545	-21.63	14,010	-7.45	
2008	14,910	12,689	17.5	9,665	54.28	

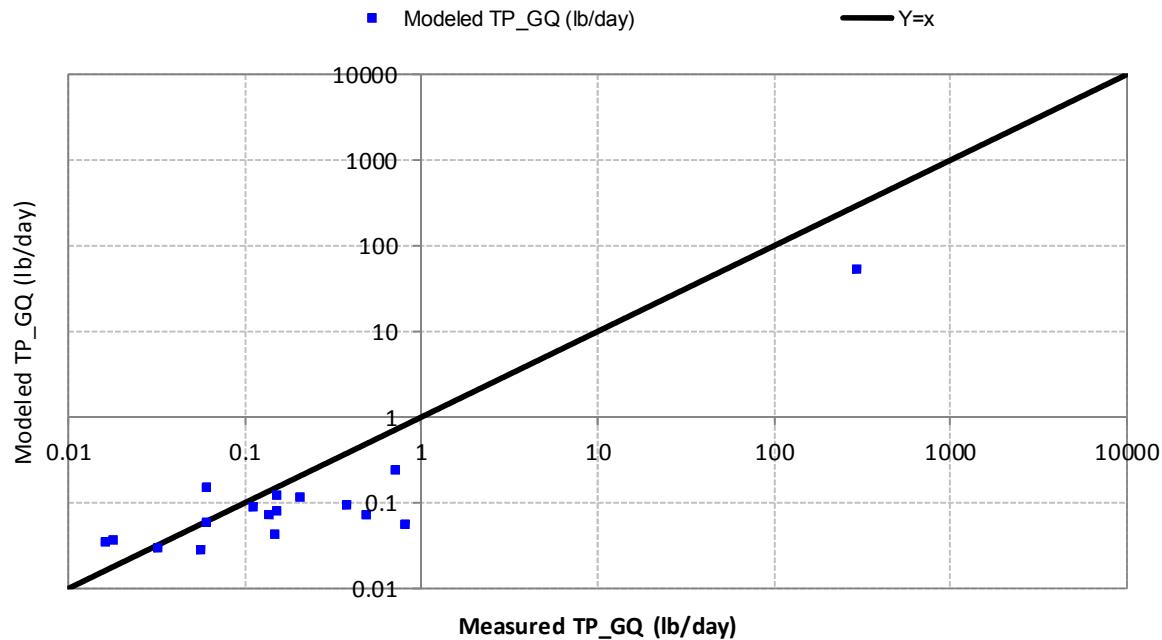


Figure B-100 Modeled vs. Observed Load TP_GQ at 03297950

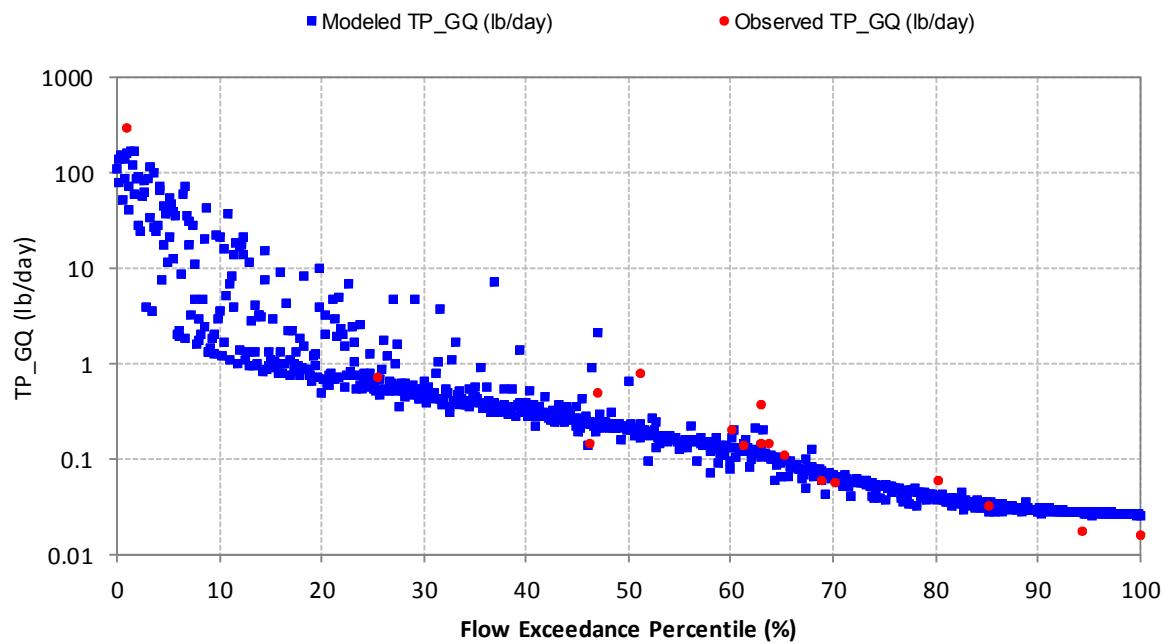


Figure B-101 Modeled vs. Observed Load TP_GQ at 03297950

Table B-21 Modeled vs. Observed Load TP_GQ at 03297950

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,821	3,108	-41.41	2,210	-17.6
2008	1,983	1,199	65.43	765	159.3

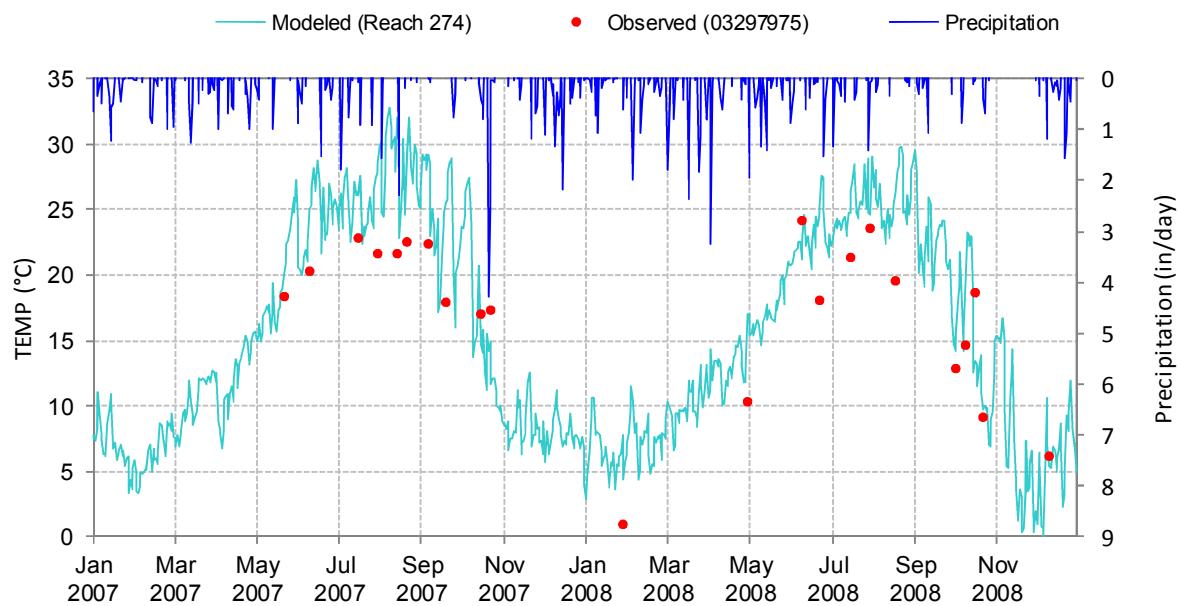


Figure B-102 Modeled vs. Observed TEMP (°C) at 03297975

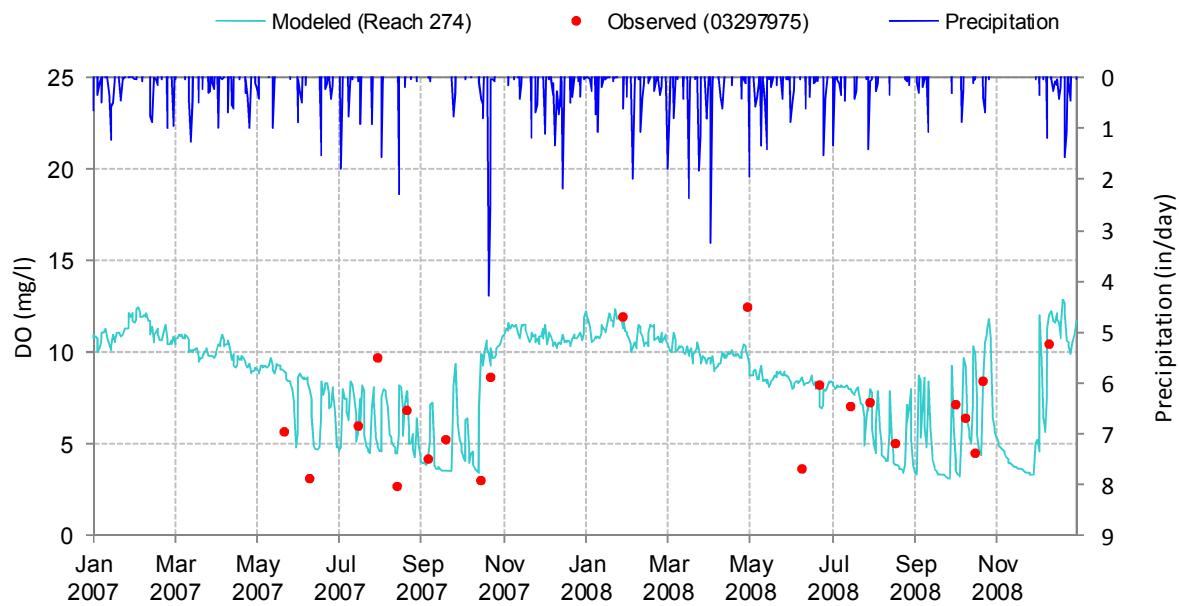


Figure B-103 Modeled vs. Observed DO (mg/l) at 03297975

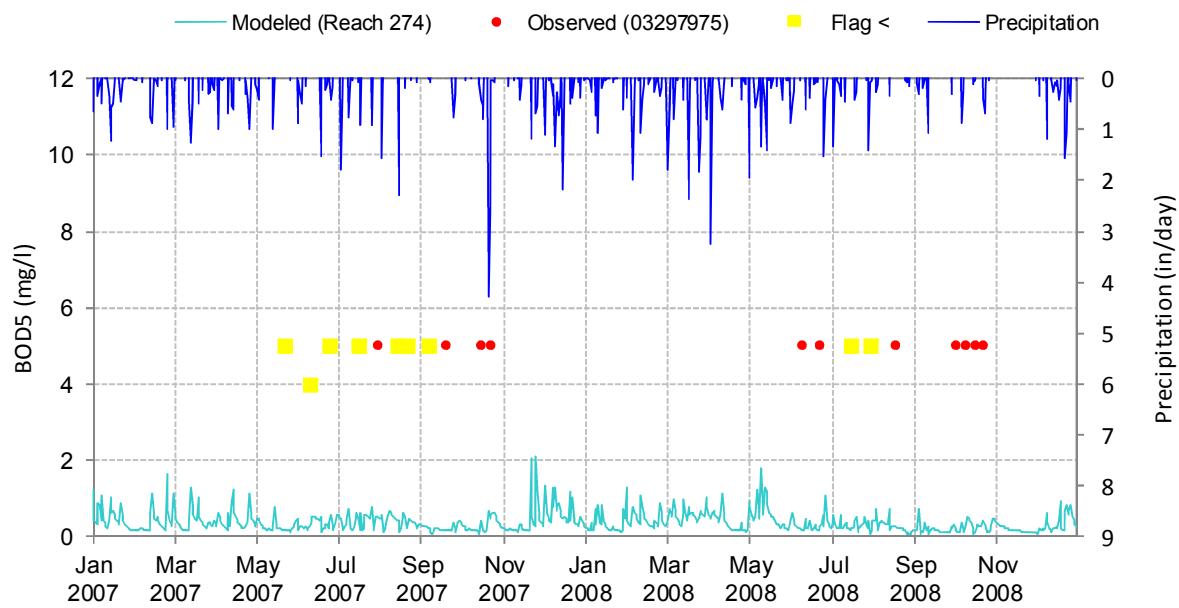


Figure B-104 Modeled vs. Observed BOD5 (mg/l) at 03297975

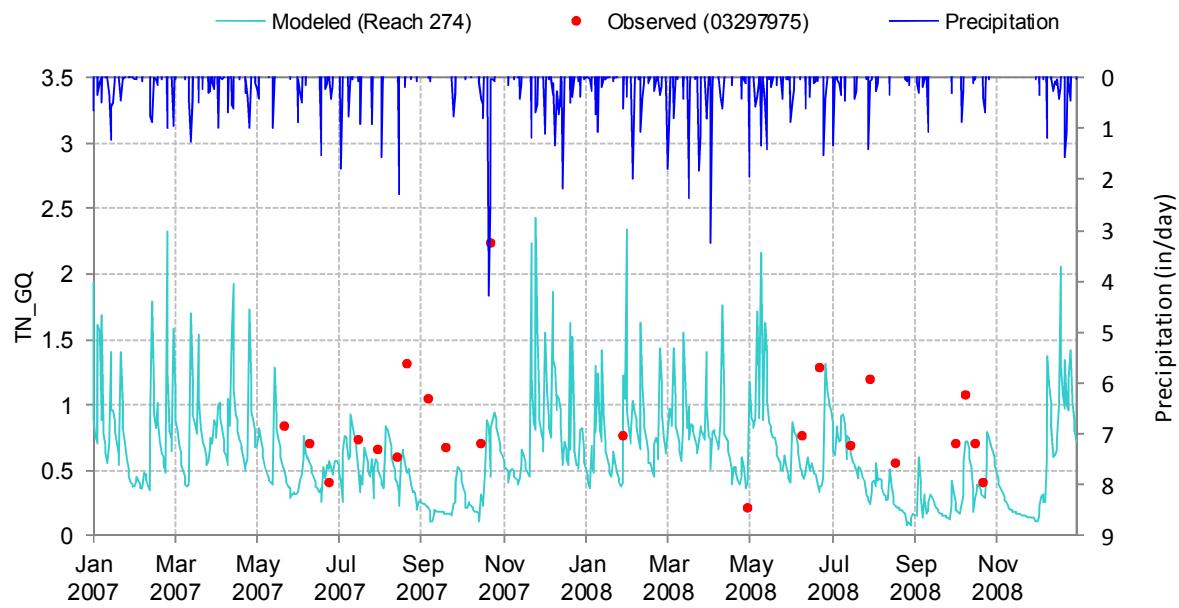


Figure B-105 Modeled vs. Observed TN_GQ at 03297975

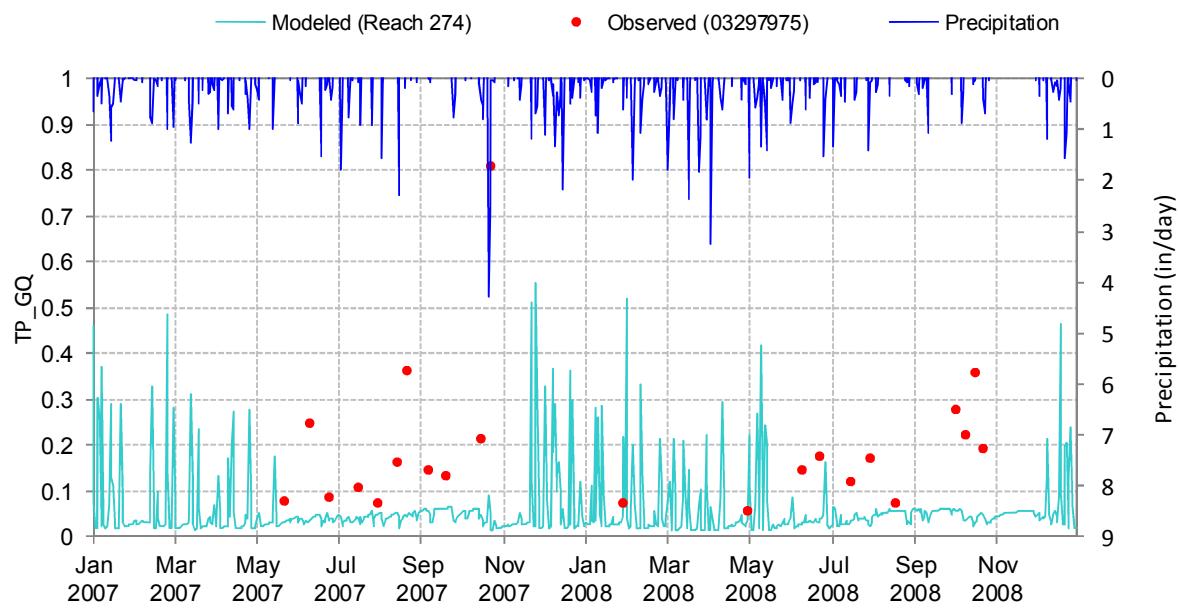


Figure B-106 Modeled vs. Observed TP_GQ at 03297975

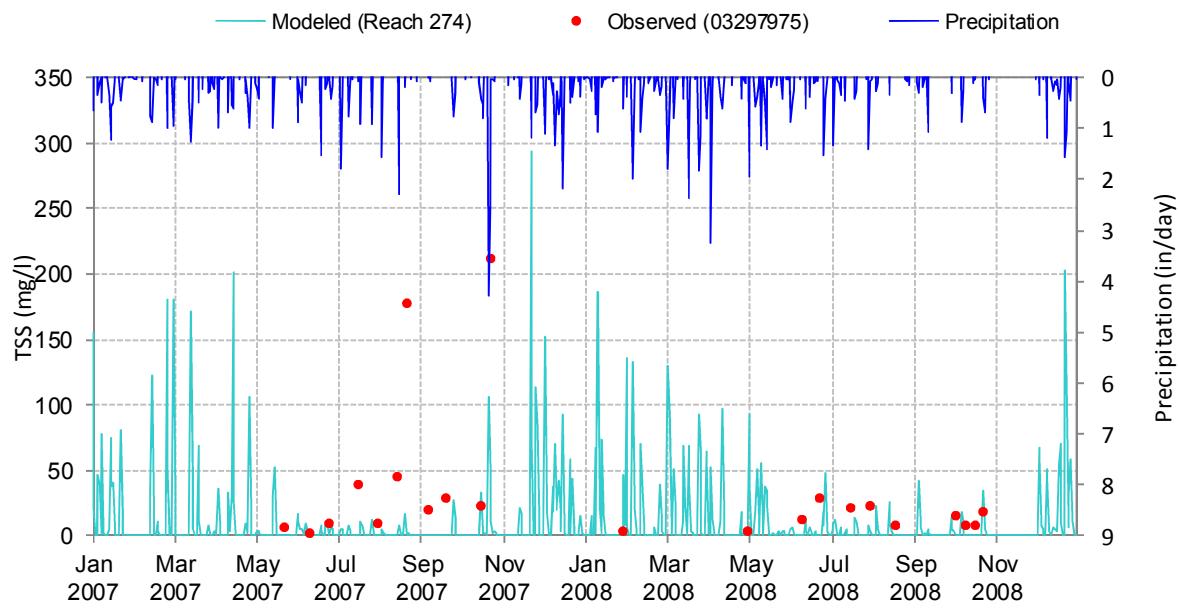


Figure B-107 Modeled vs. Observed TSS (mg/l) at 03297975

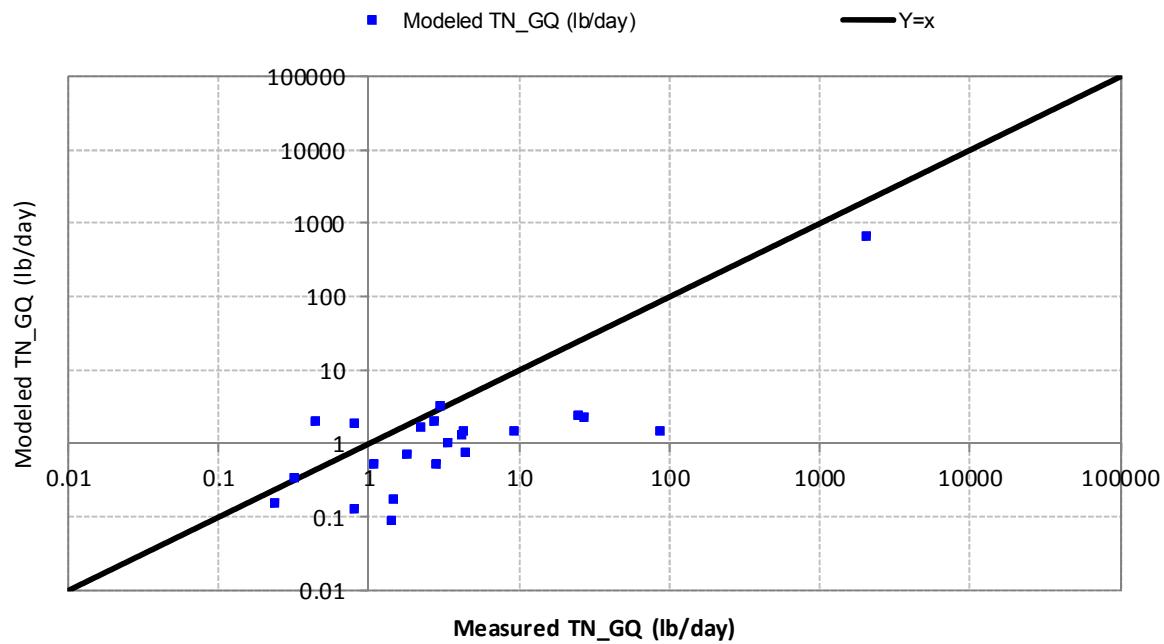


Figure B-108 Modeled vs. Observed Load TN_GQ at 03297975

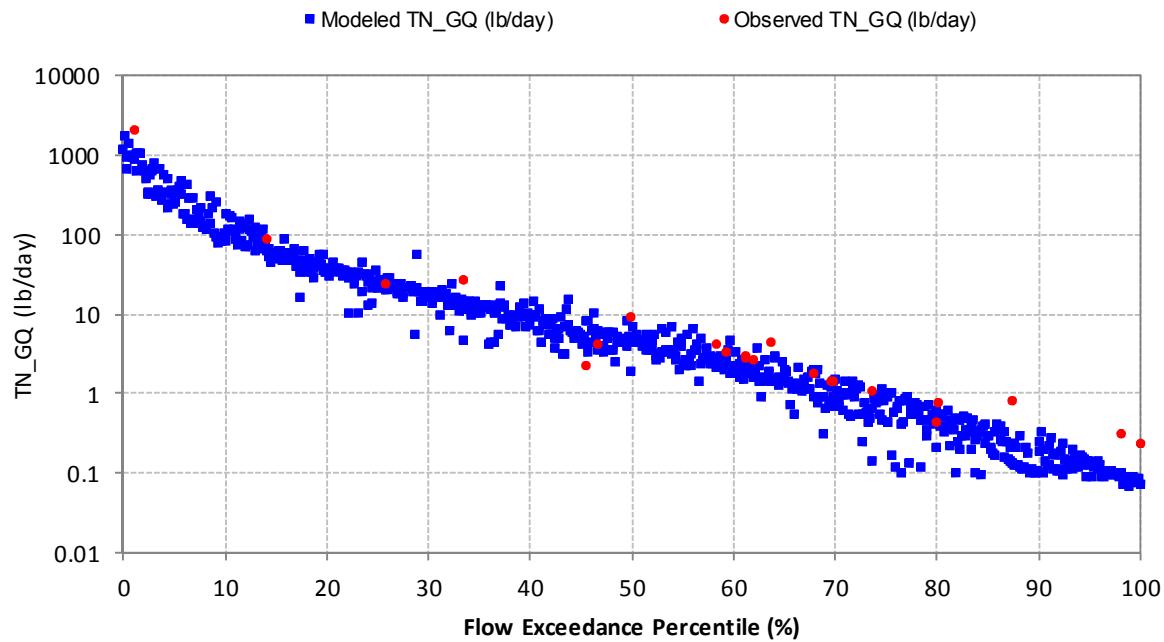


Figure B-109 Modeled vs. Observed Load TN_GQ at 03297975

Table B-22 Modeled vs. Observed Load TN_GQ at 03297975

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	18,985	28,634		-33.7	24,318	-21.93
2008	21,913	20,106		8.99	13,779	59.03

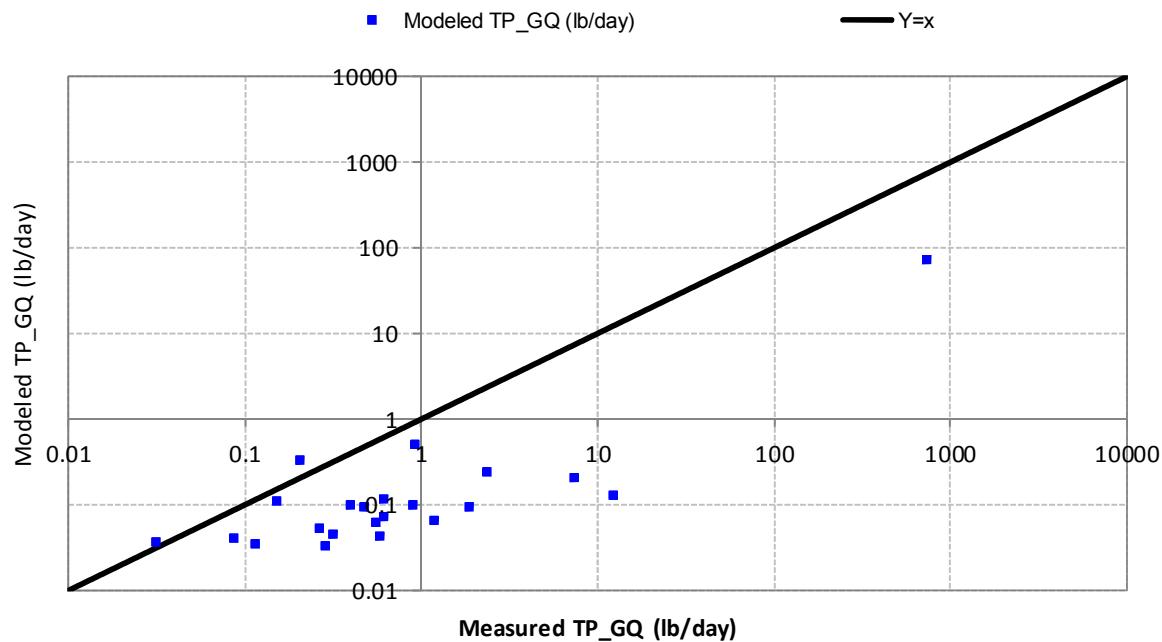


Figure B-110 Modeled vs. Observed Load TP_GQ at 03297975

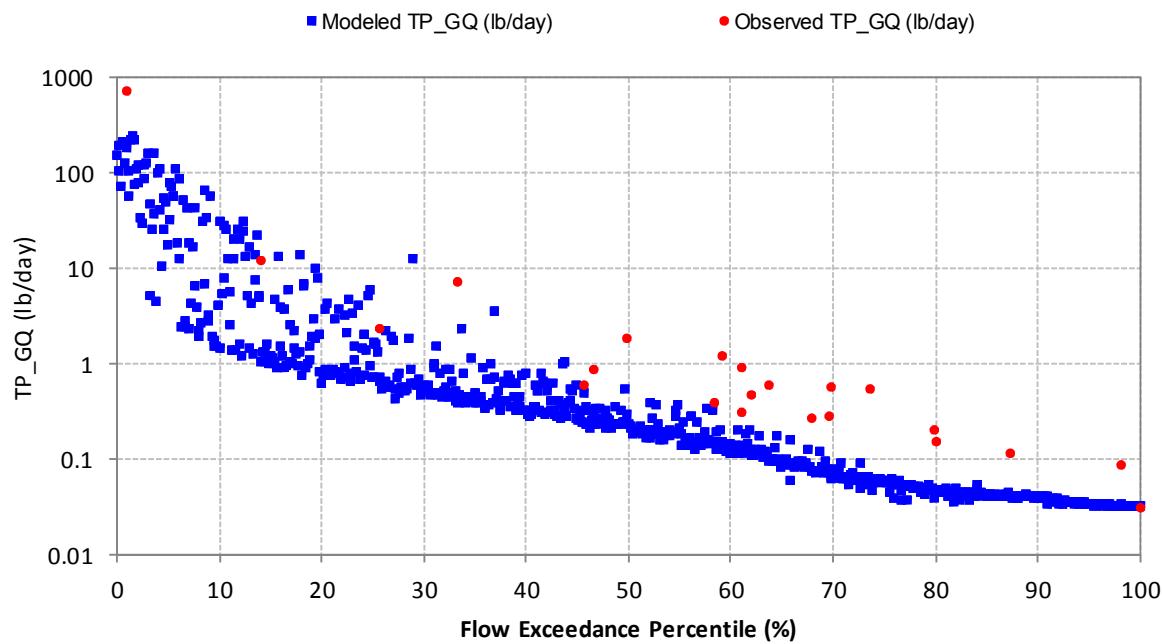


Figure B-111 Modeled vs. Observed Load TP_GQ at 03297975

Table B-23 Modeled vs. Observed Load TP_GQ at 03297975

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	2,625	7,586	-65.39	5,401	-51.39	
2008	2,747	3,385	-18.86	2,279	20.5	

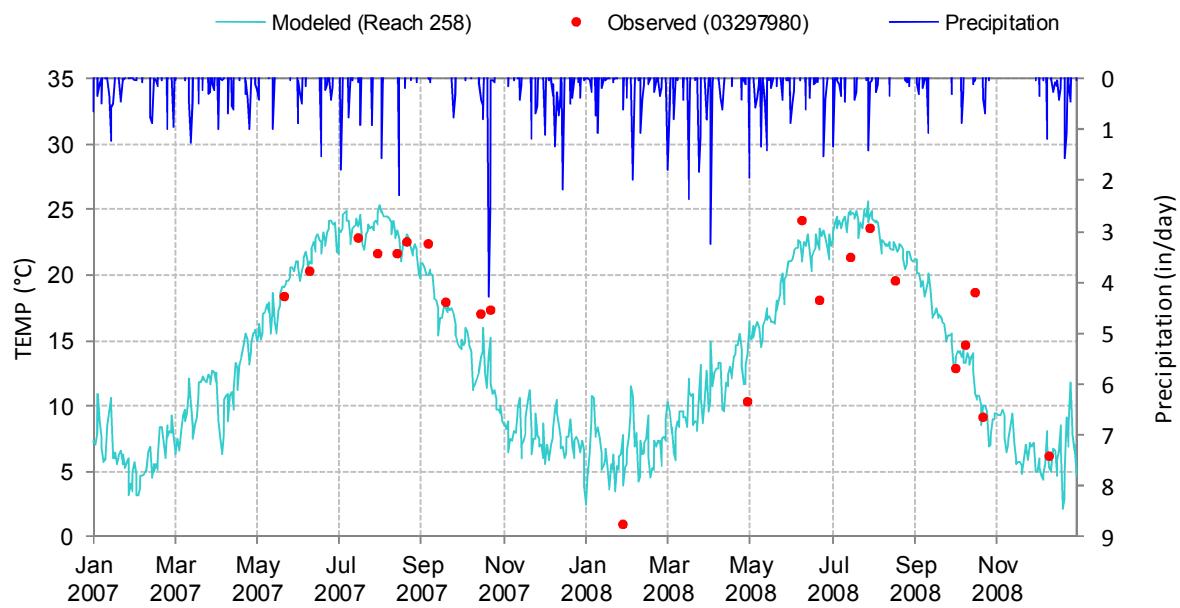


Figure B-112 Modeled vs. Observed TEMP (°C) at 03297980

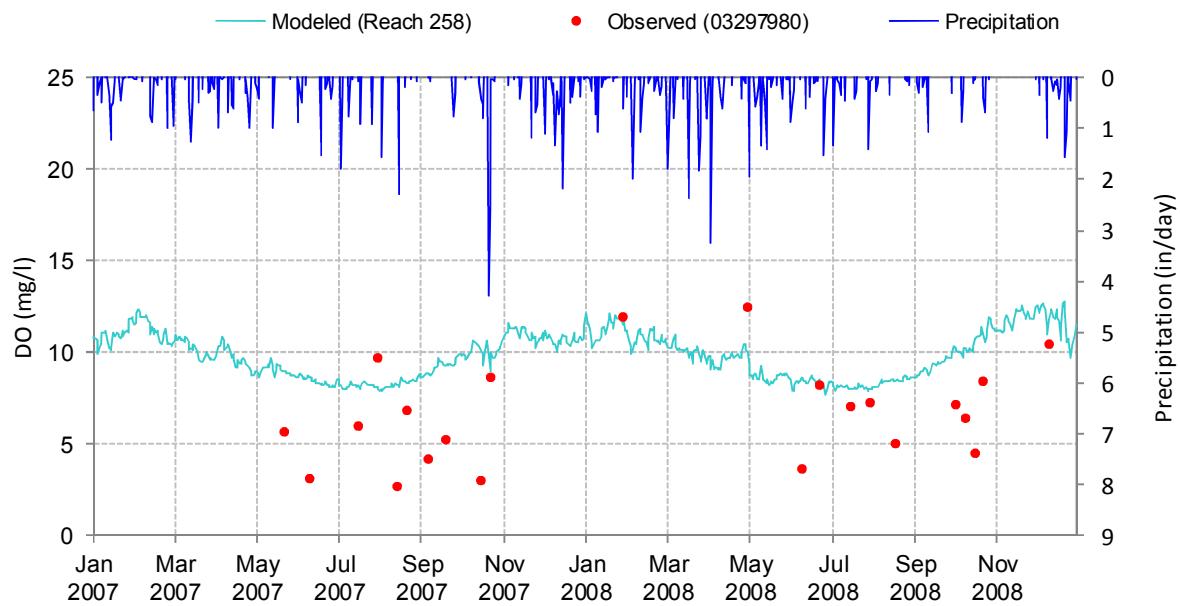


Figure B-113 Modeled vs. Observed DO (mg/l) at 03297980

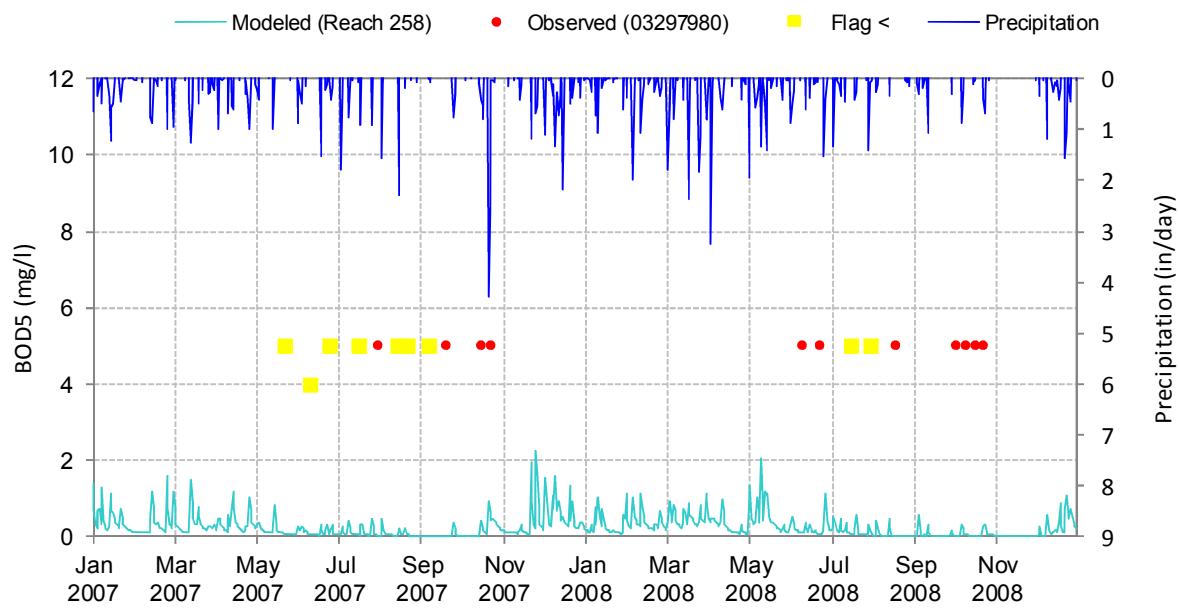


Figure B-114 Modeled vs. Observed BOD5 (mg/l) at 03297980

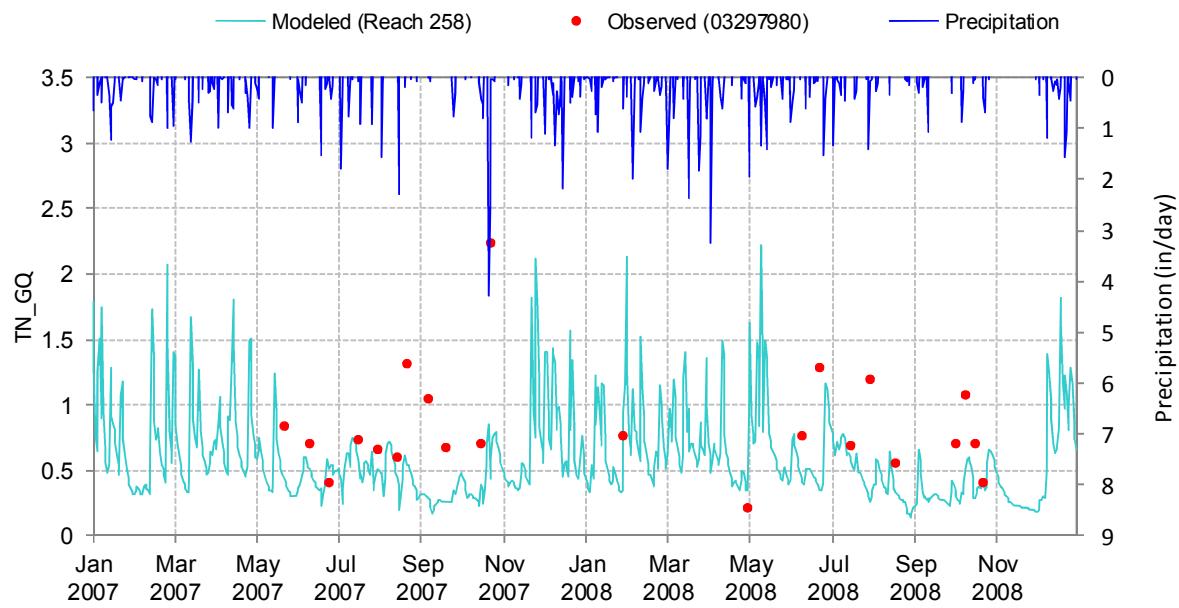


Figure B-115 Modeled vs. Observed TN_GQ at 03297980

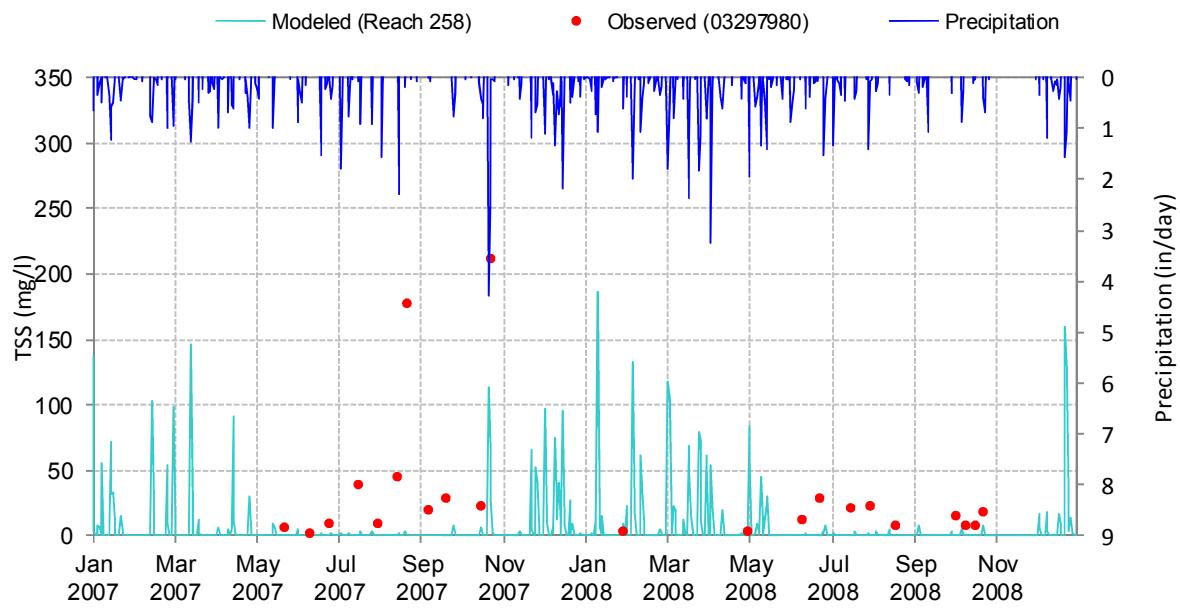
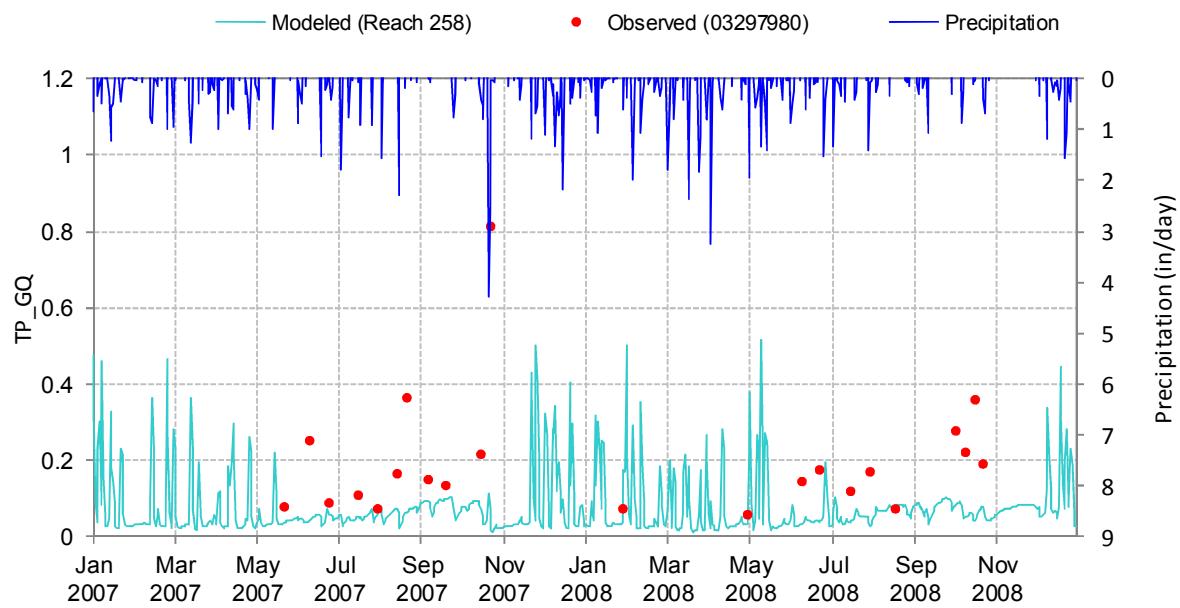


Figure B-117 Modeled vs. Observed TSS (mg/l) at 03297980

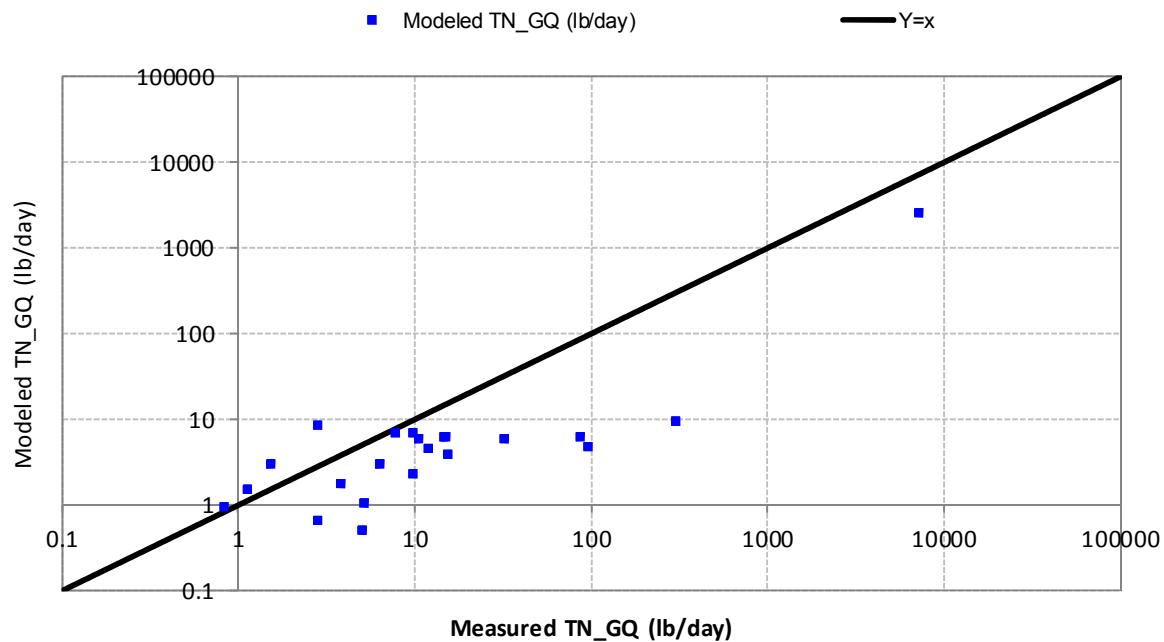


Figure B-118 Modeled vs. Observed Load TN_GQ at 03297980

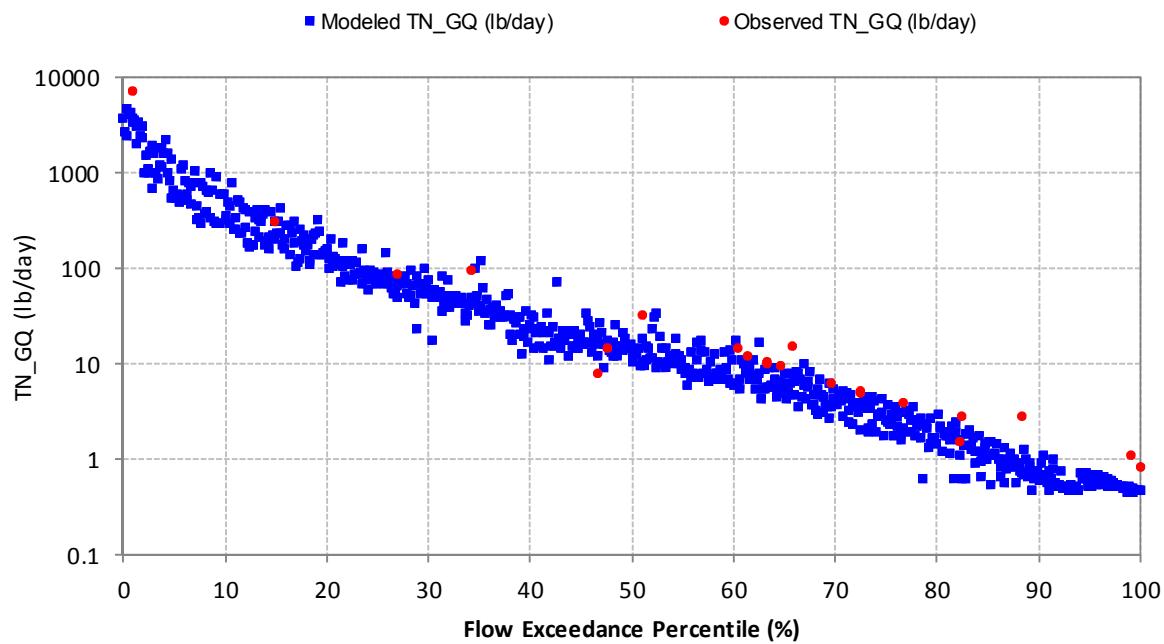


Figure B-119 Modeled vs. Observed Load TN_GQ at 03297980

Table B-24 Modeled vs. Observed Load TN_GQ at 03297980

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	59,345	100,921		-41.2	85,712	-30.76
2008	71,650	70,865		1.11	49,206	45.61

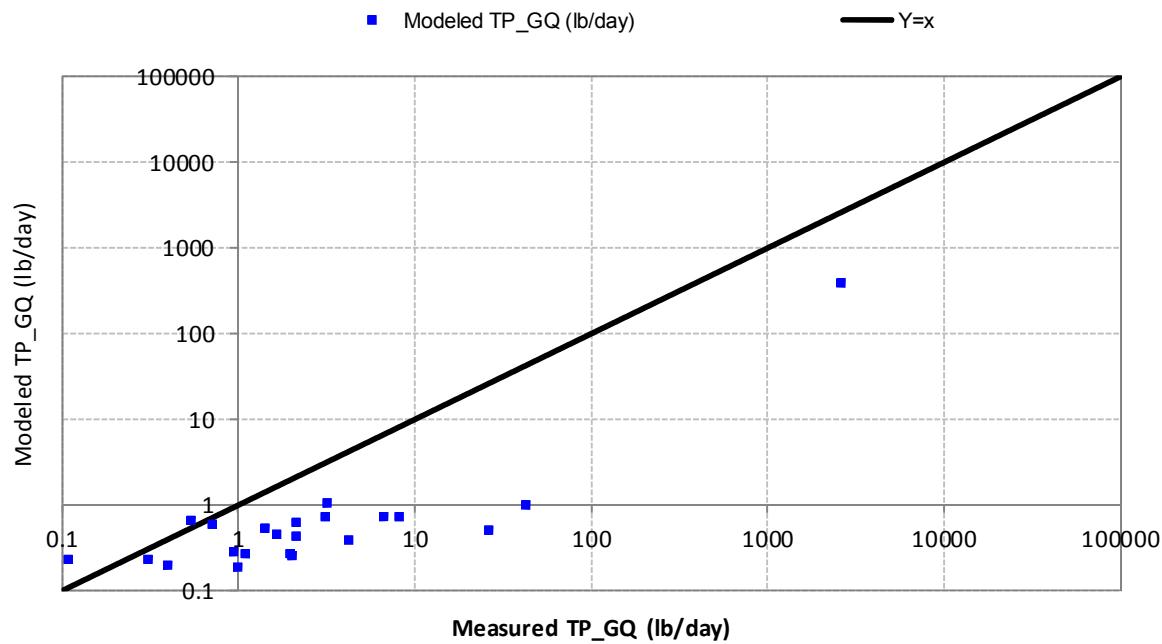


Figure B-120 Modeled vs. Observed Load TP_GQ at 03297980

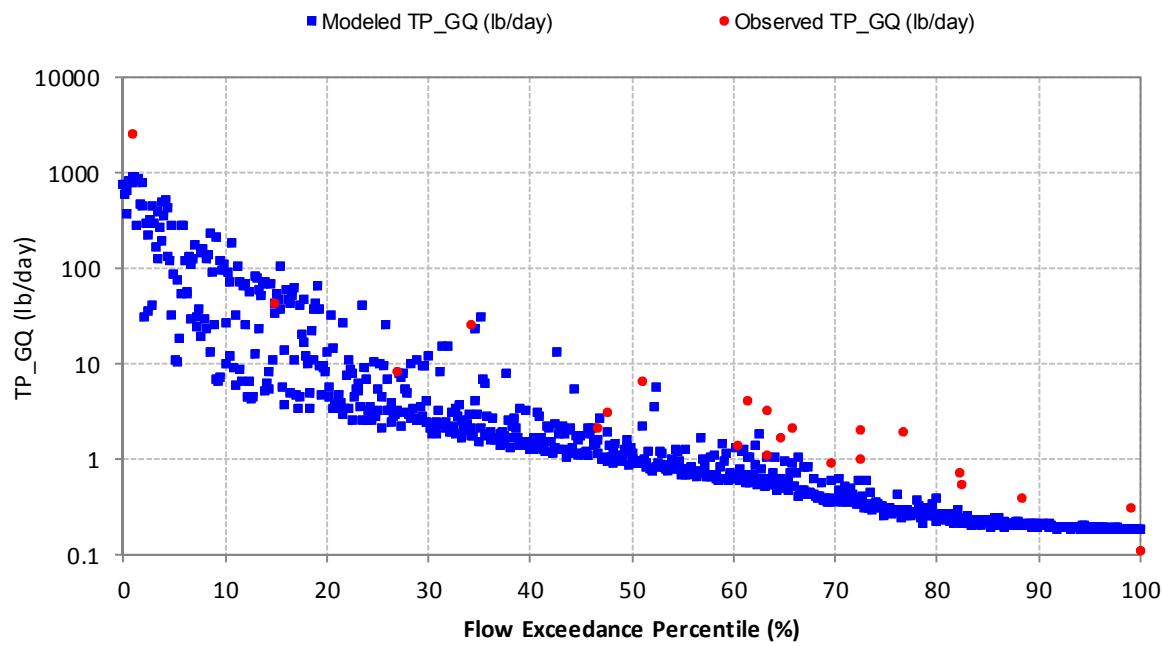


Figure B-121 Modeled vs. Observed Load TP_GQ at 03297980

Table B-25 Modeled vs. Observed Load TP_GQ at 03297980

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	10,120	26,736	-62.15	19,036	-46.84
2008	12,282	11,930	2.95	8,066	52.27

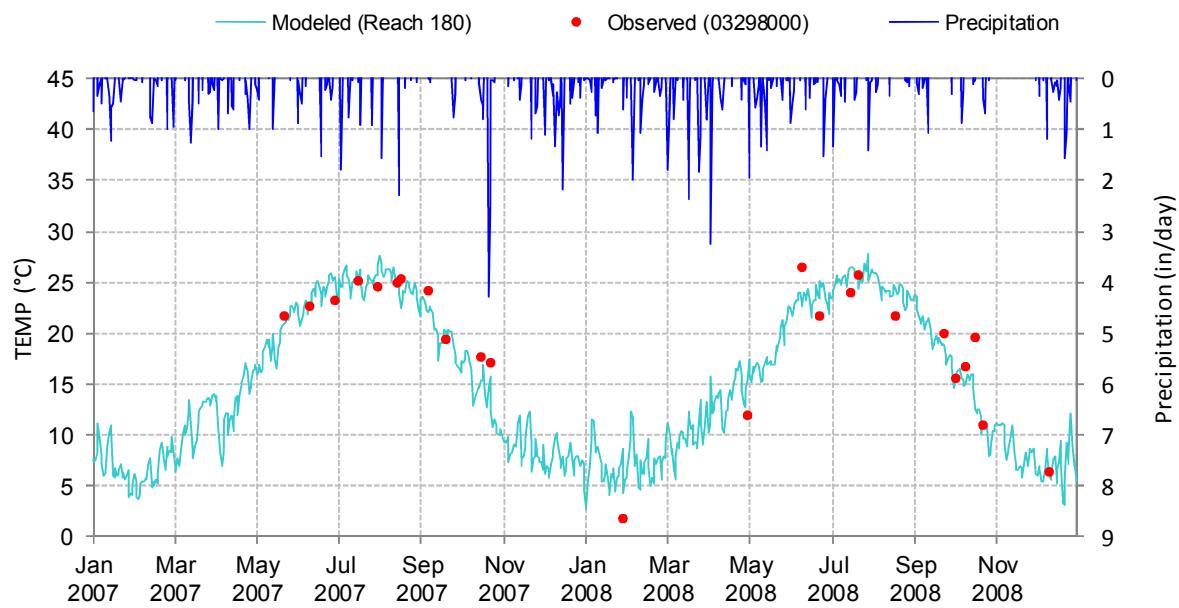


Figure B-122 Modeled vs. Observed TEMP (°C) at 03298000

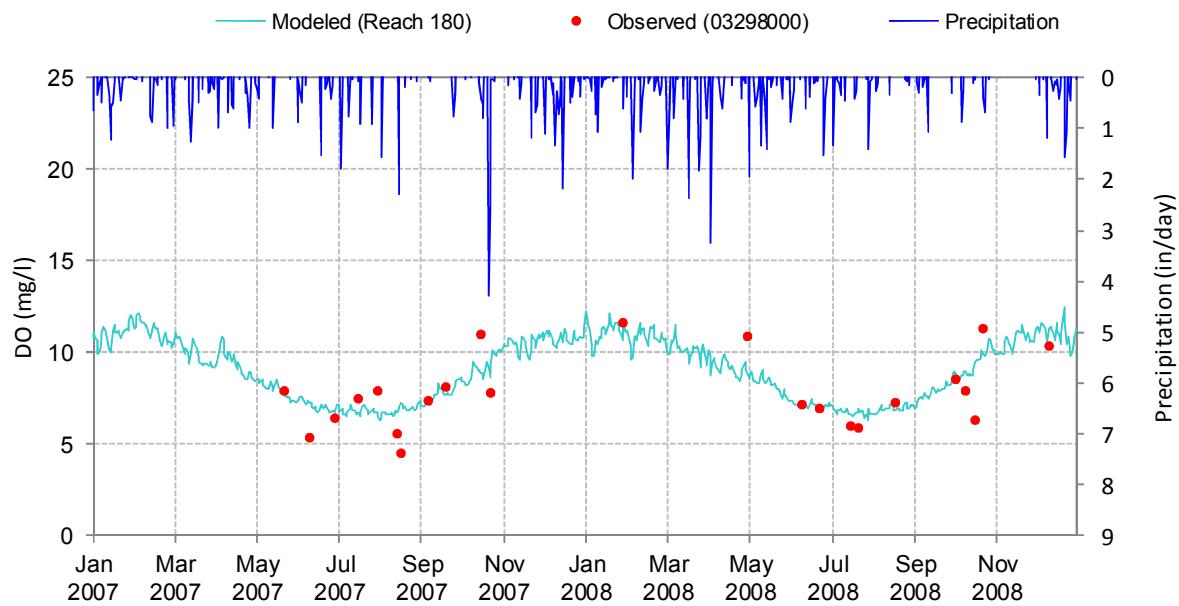


Figure B-123 Modeled vs. Observed DO (mg/l) at 03298000

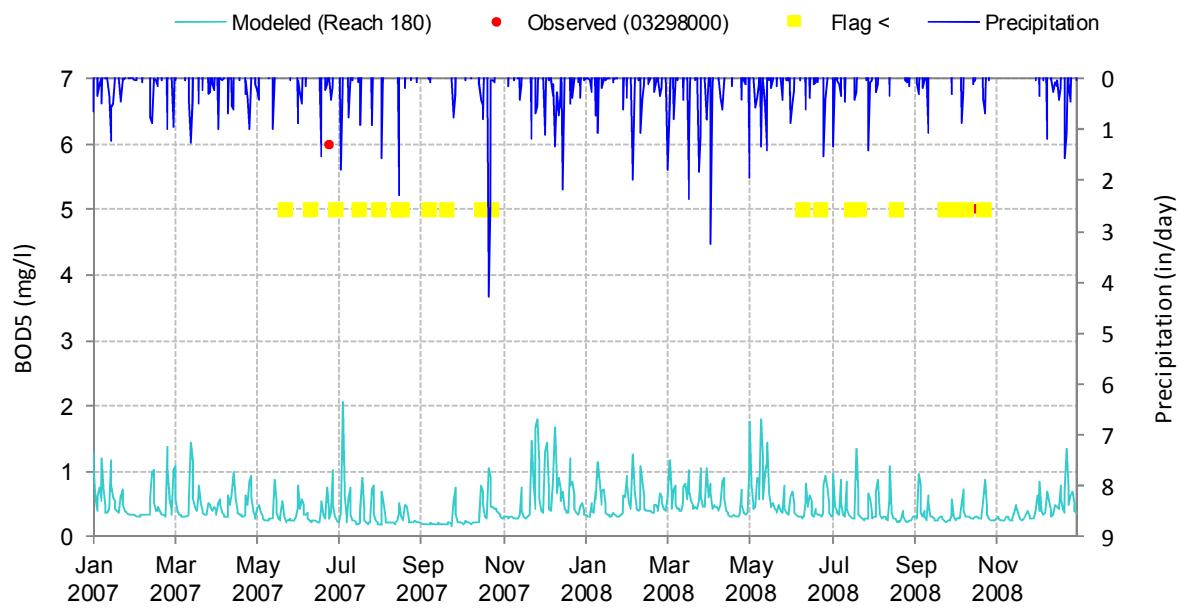


Figure B-124 Modeled vs. Observed BOD5 (mg/l) at 03298000

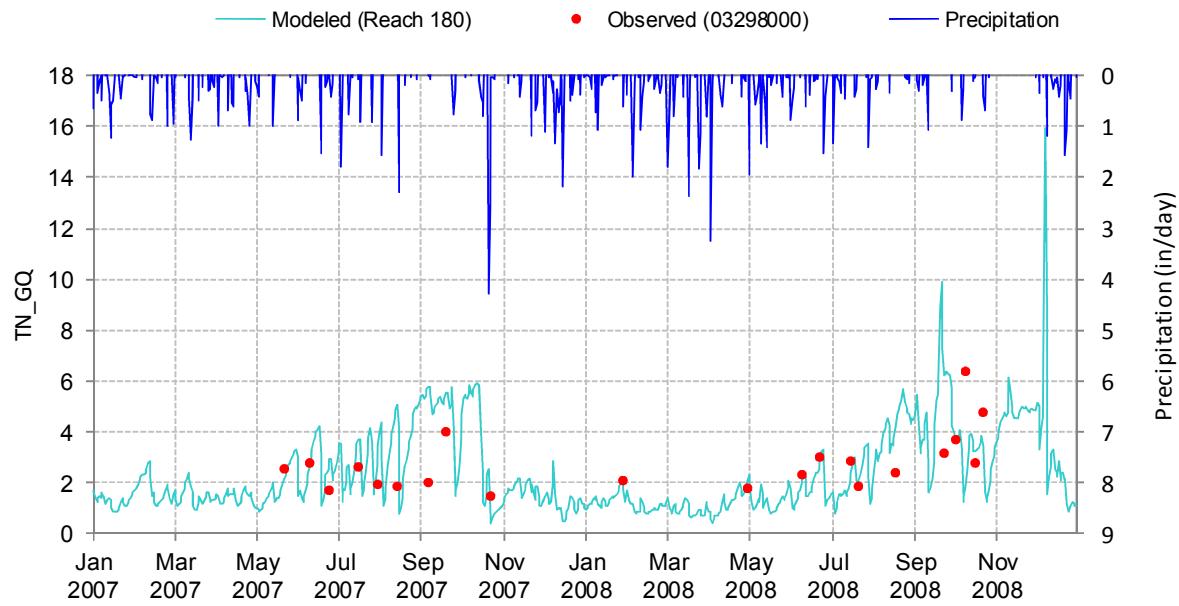


Figure B-125 Modeled vs. Observed TN_GQ at 03298000

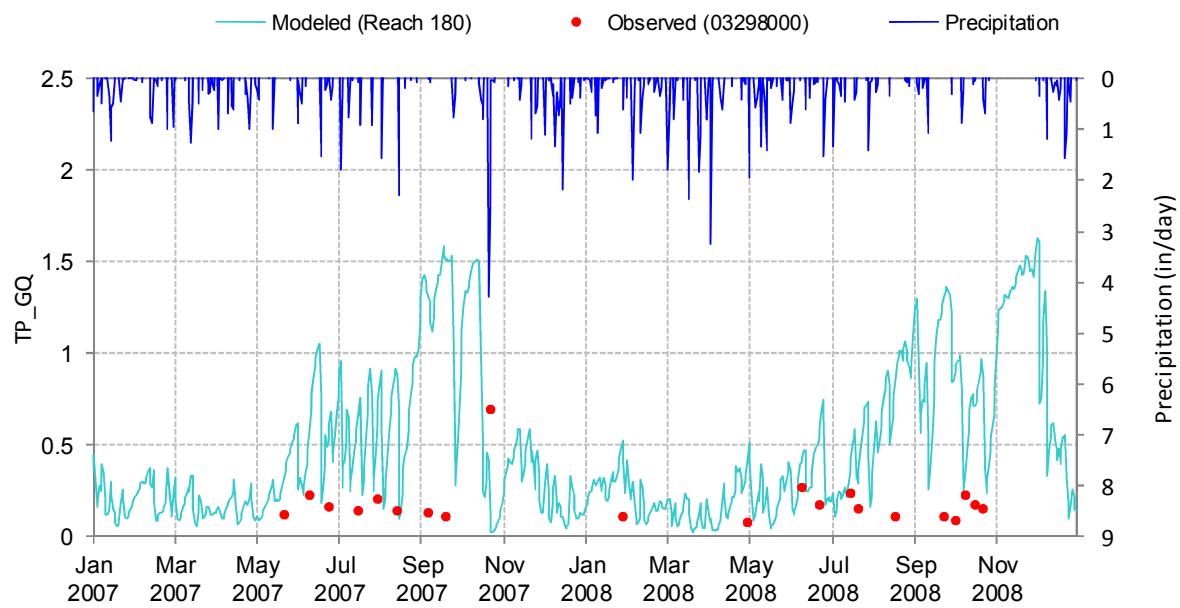


Figure B-126 Modeled vs. Observed TP_GQ at 03298000

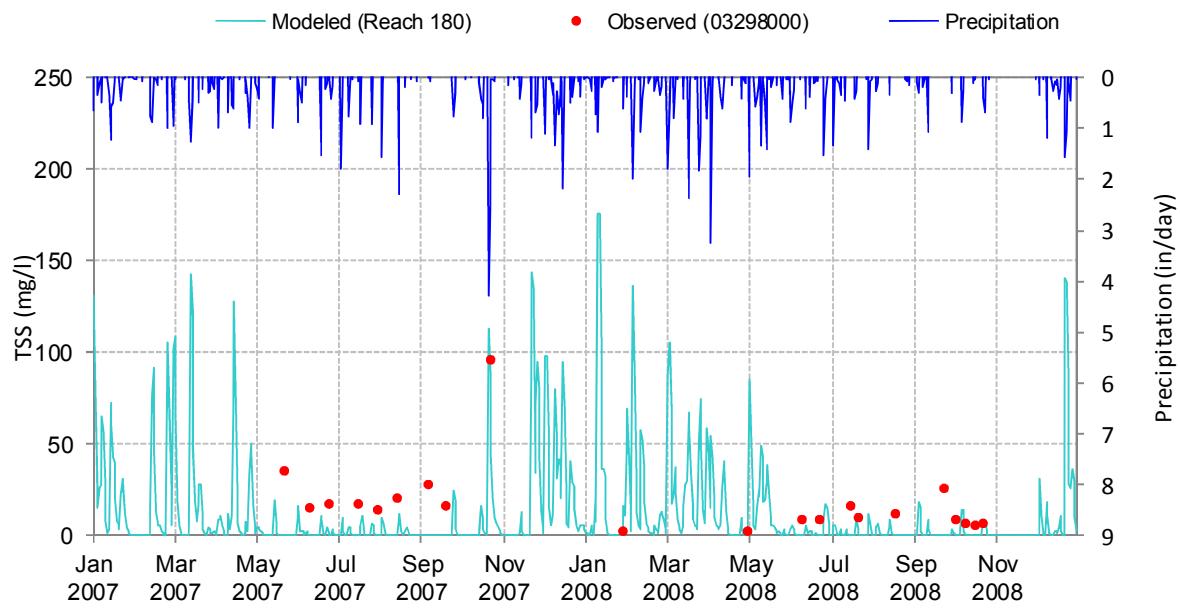


Figure B-127 Modeled vs. Observed TSS (mg/l) at 03298000

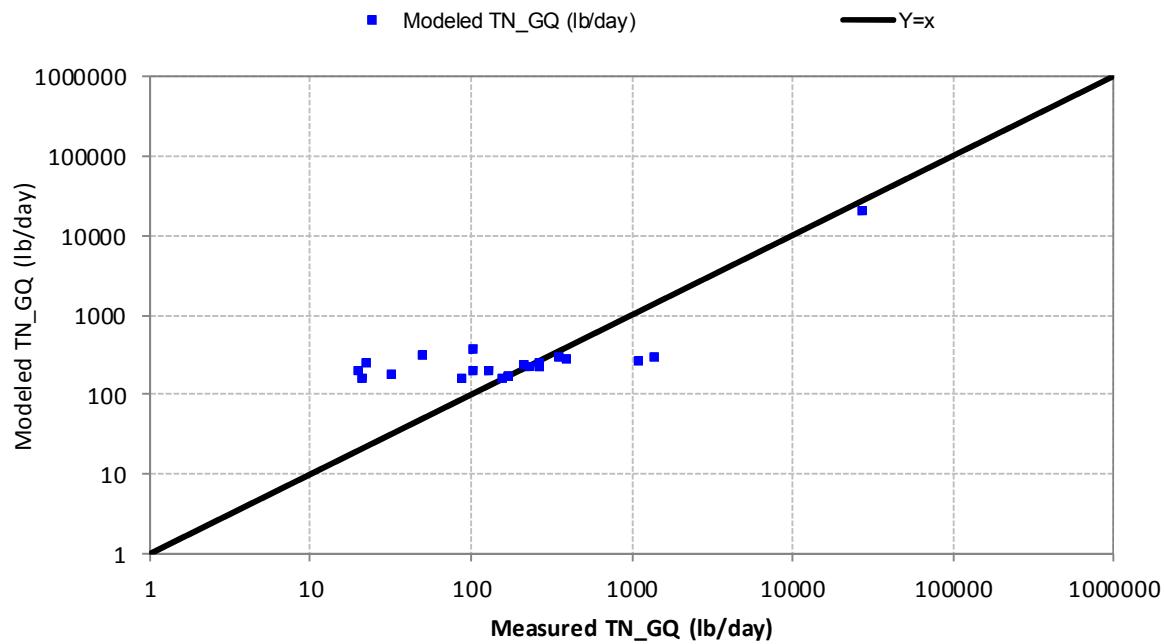


Figure B-128 Modeled vs. Observed Load TN_GQ at 03298000

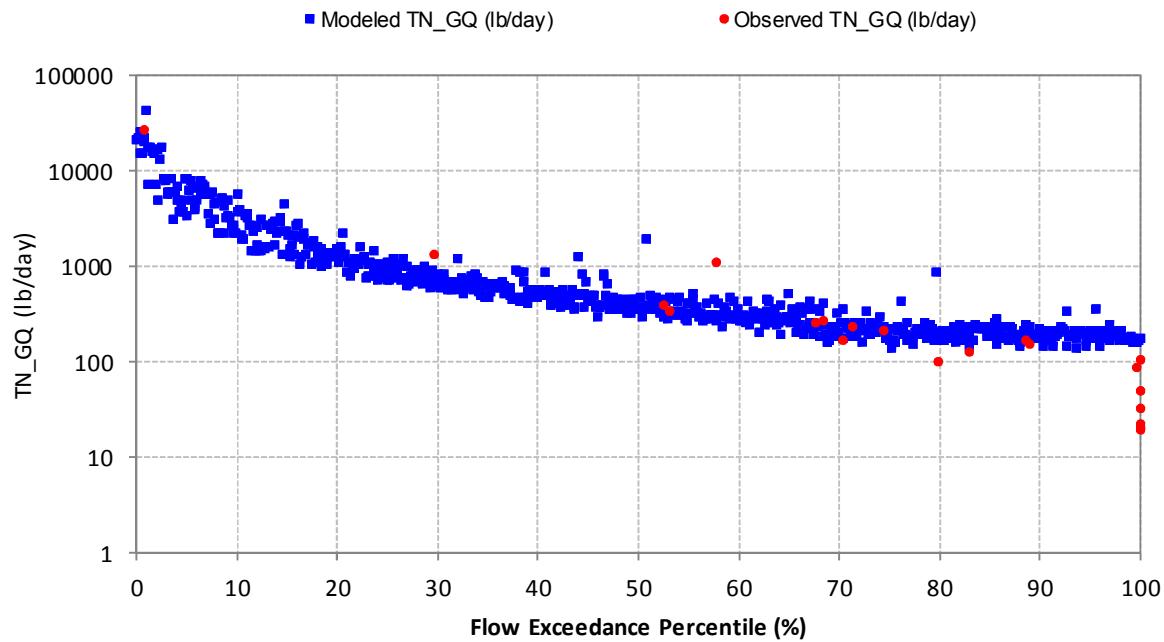


Figure B-129 Modeled vs. Observed Load TN_GQ at 03298000

Table B-26 Modeled vs. Observed Load TN_GQ at 03298000

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	482,163	917,430	-47.44	952,955	-49.4	
2008	524,745	1,117,775	-53.05	1,153,534	-54.51	

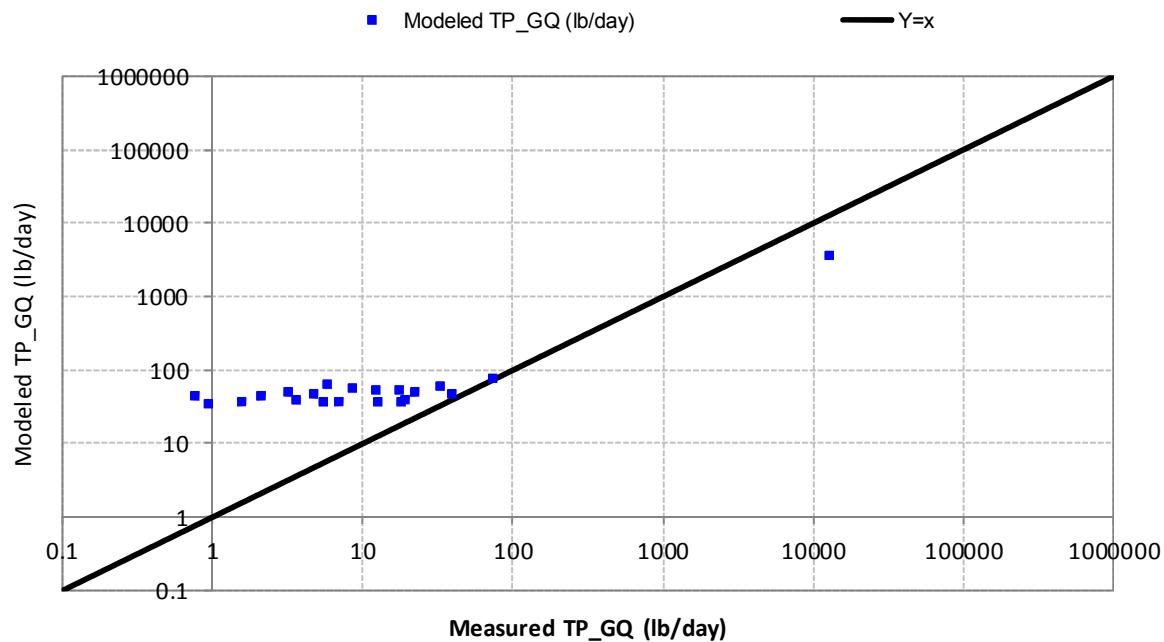


Figure B-130 Modeled vs. Observed Load TP_GQ at 03298000

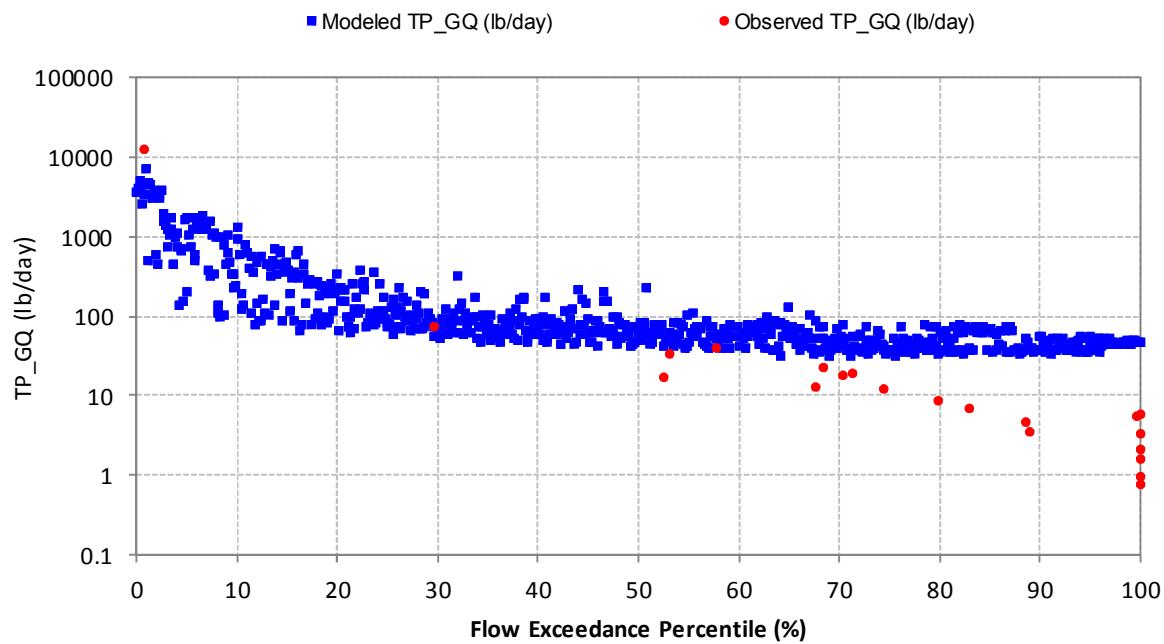


Figure B-131 Modeled vs. Observed Load TP_GQ at 03298000

Table B-27 Modeled vs. Observed Load TP_GQ at 03298000

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	83,010	146,358	-43.28	112,250	-26.05
2008	94,483	79,183	19.32	70,989	33.1

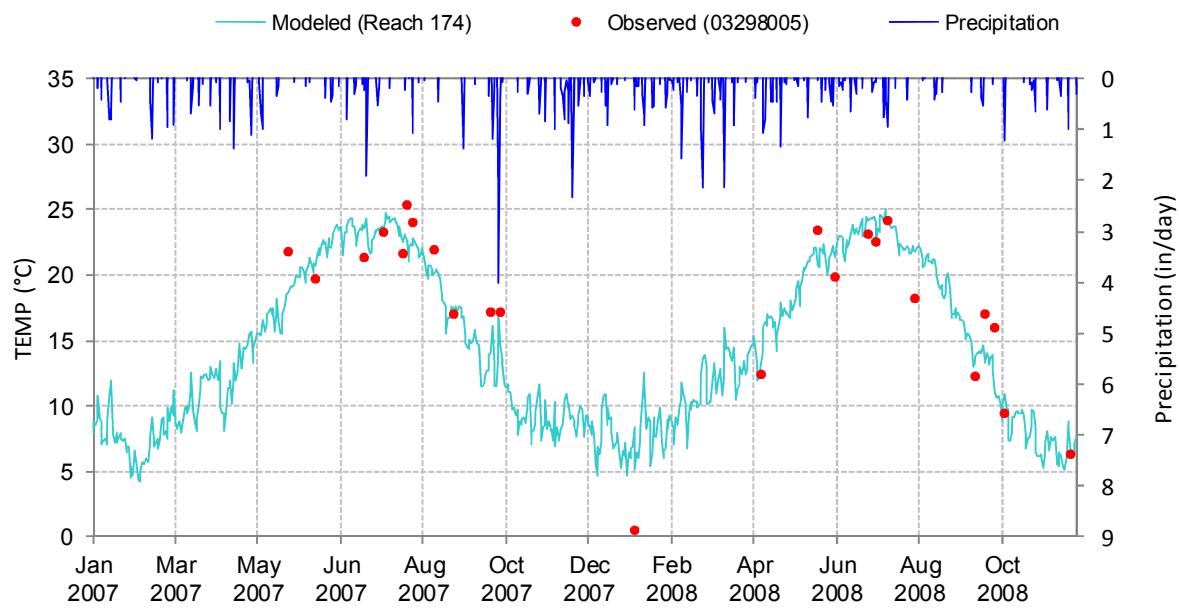


Figure B-132 Modeled vs. Observed TEMP (°C) at 03298005

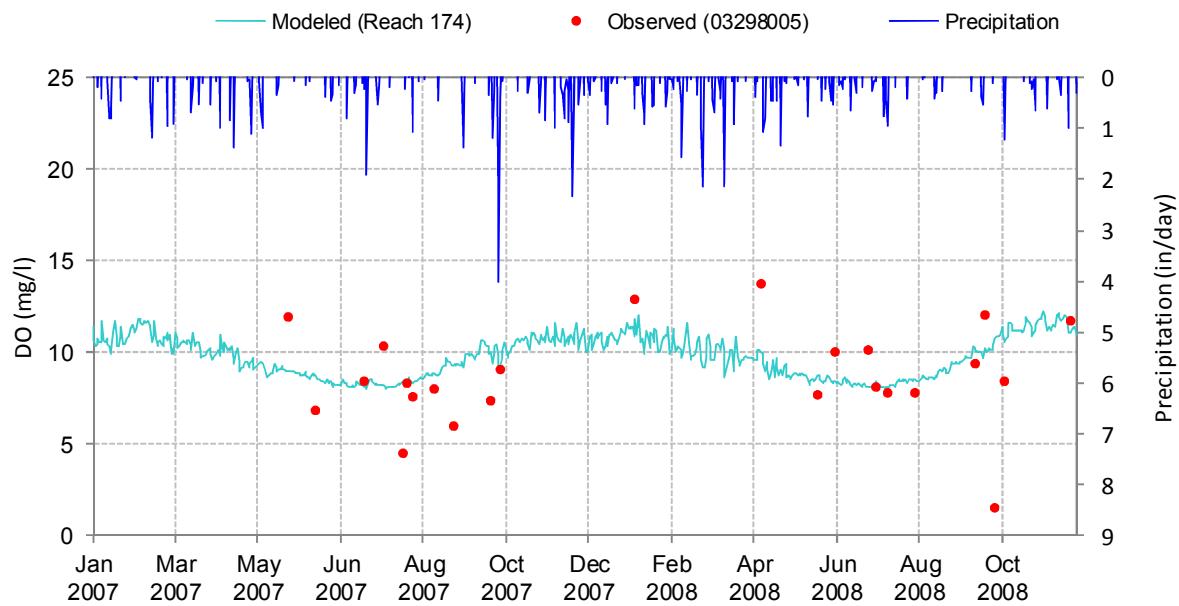


Figure B-133 Modeled vs. Observed DO (mg/l) at 03298005

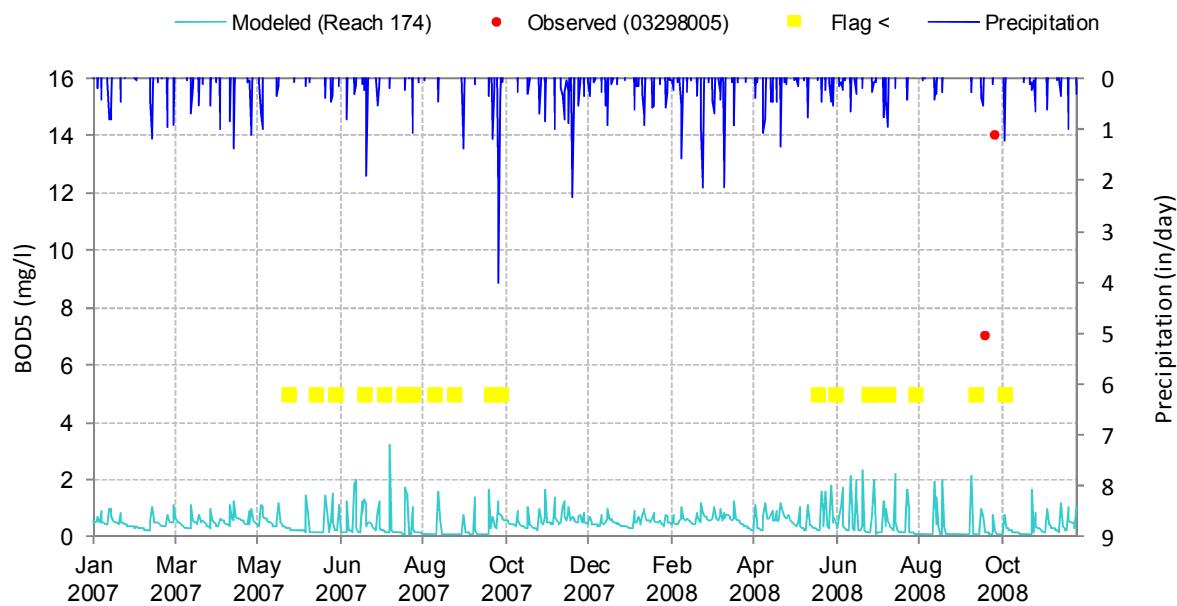


Figure B-134 Modeled vs. Observed BOD5 (mg/l) at 03298005

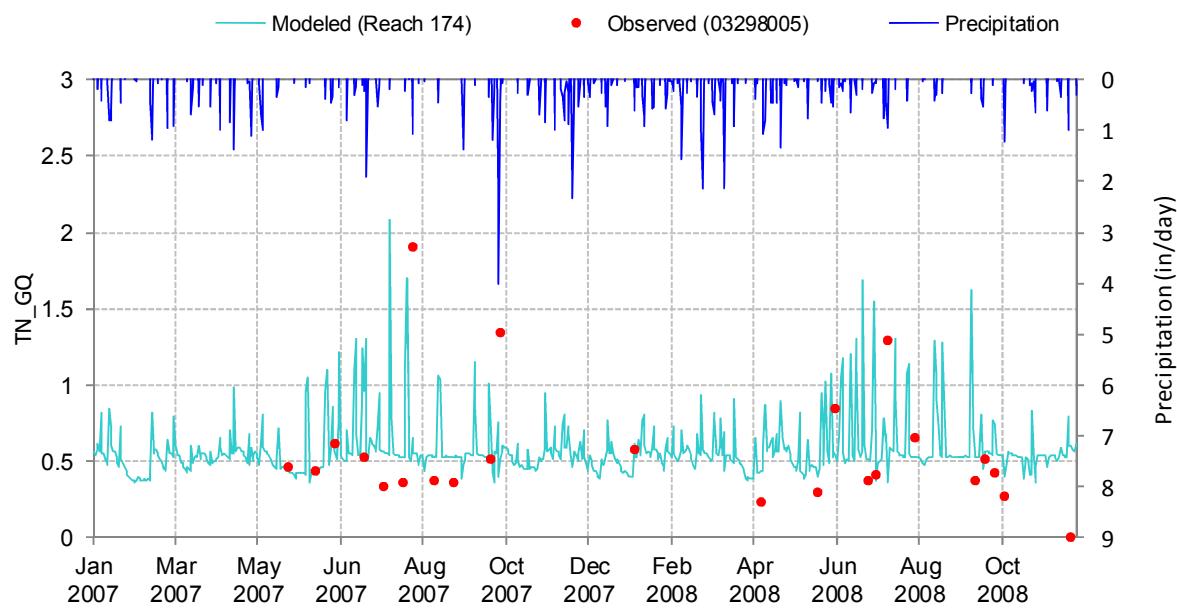


Figure B-135 Modeled vs. Observed TN_GQ at 03298005

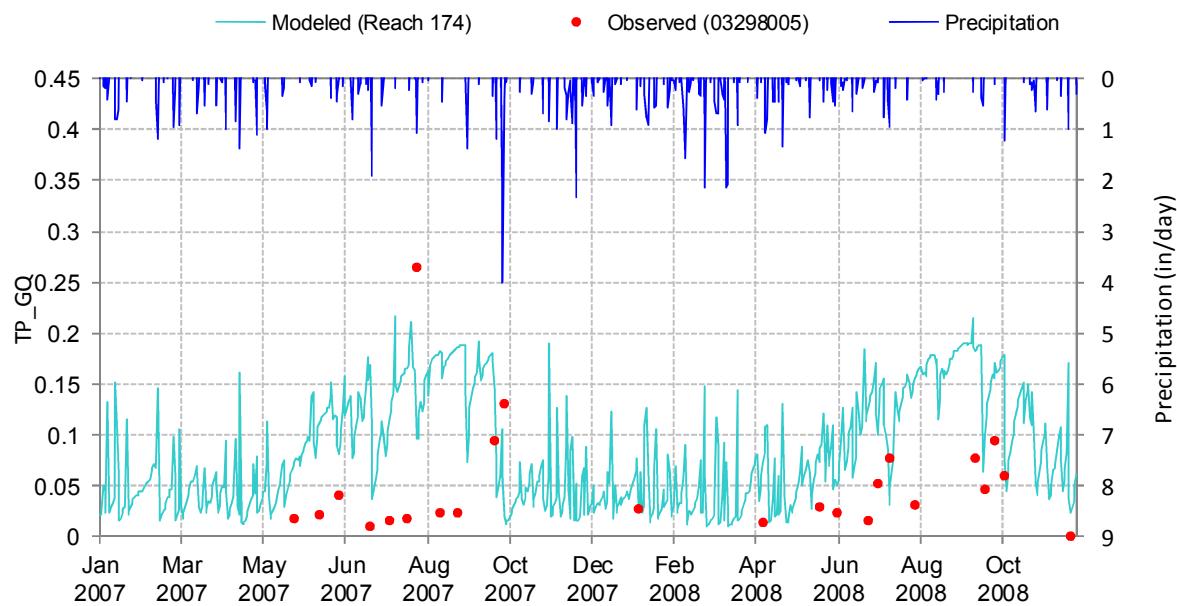


Figure B-136 Modeled vs. Observed TP_GQ at 03298005

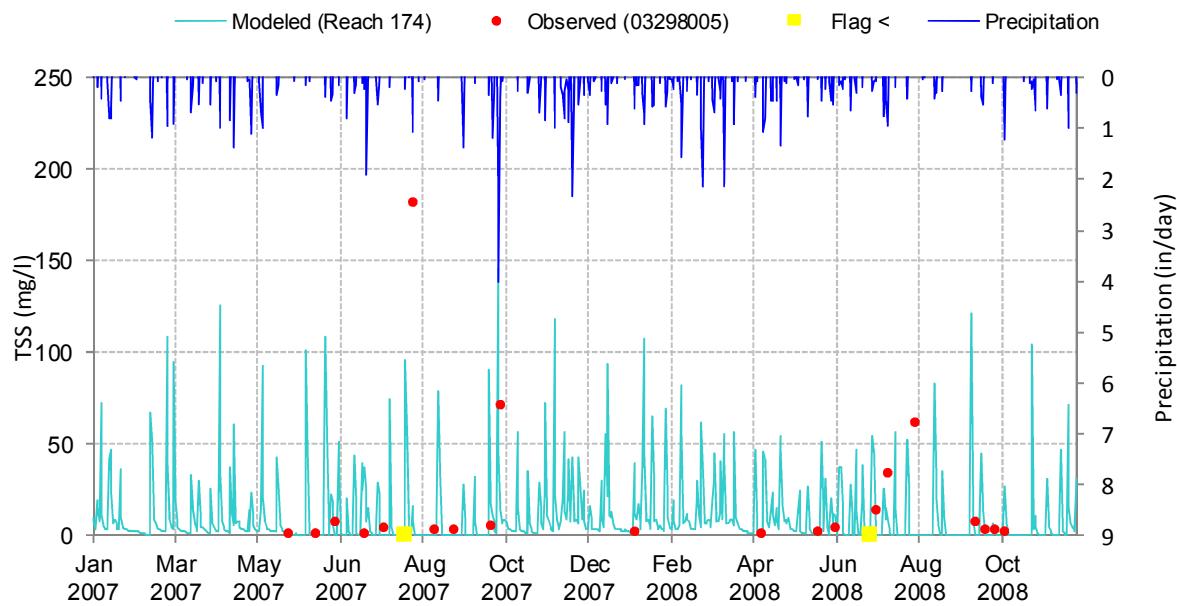


Figure B-137 Modeled vs. Observed TSS (mg/l) at 03298005

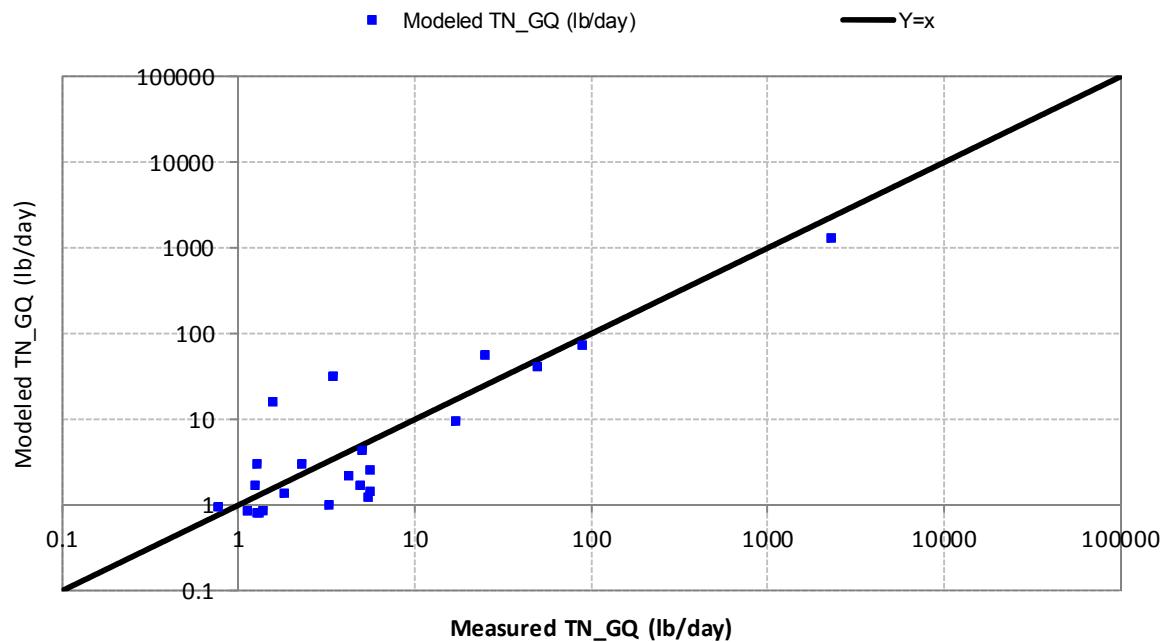


Figure B-138 Modeled vs. Observed Load TN_GQ at 03298005

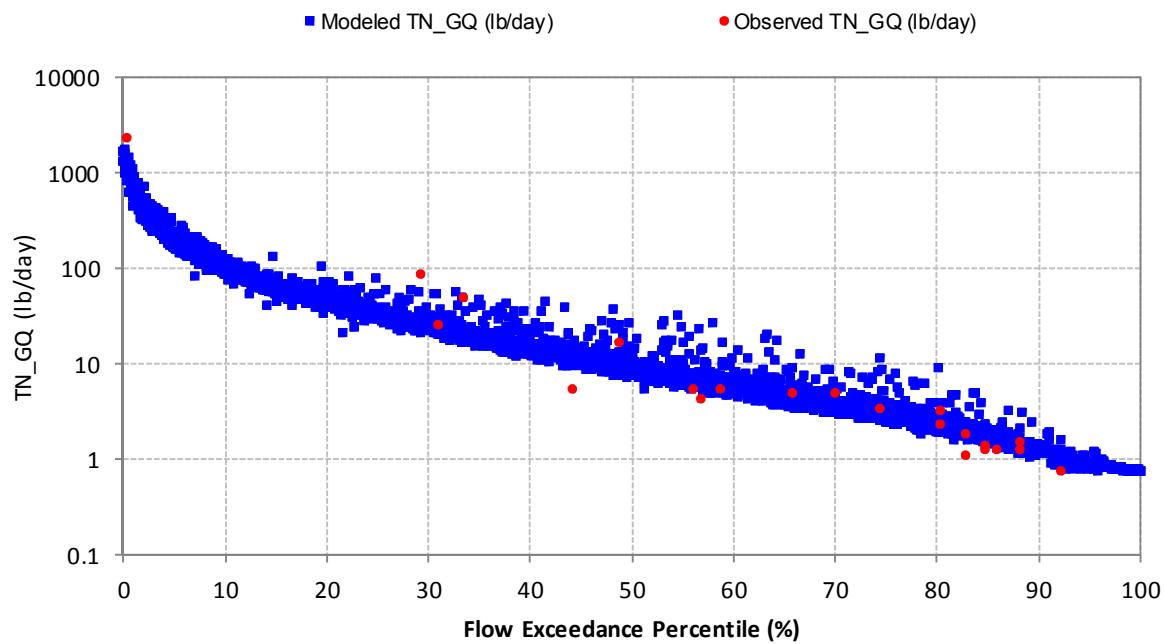


Figure B-139 Modeled vs. Observed Load TN_GQ at 03298005

Table B-28 Modeled vs. Observed Load TN_GQ at 03298005

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	15,475	23,068	-32.91	20,158	-23.23	
2008	17,547	20,038	-12.43	13,817	27	

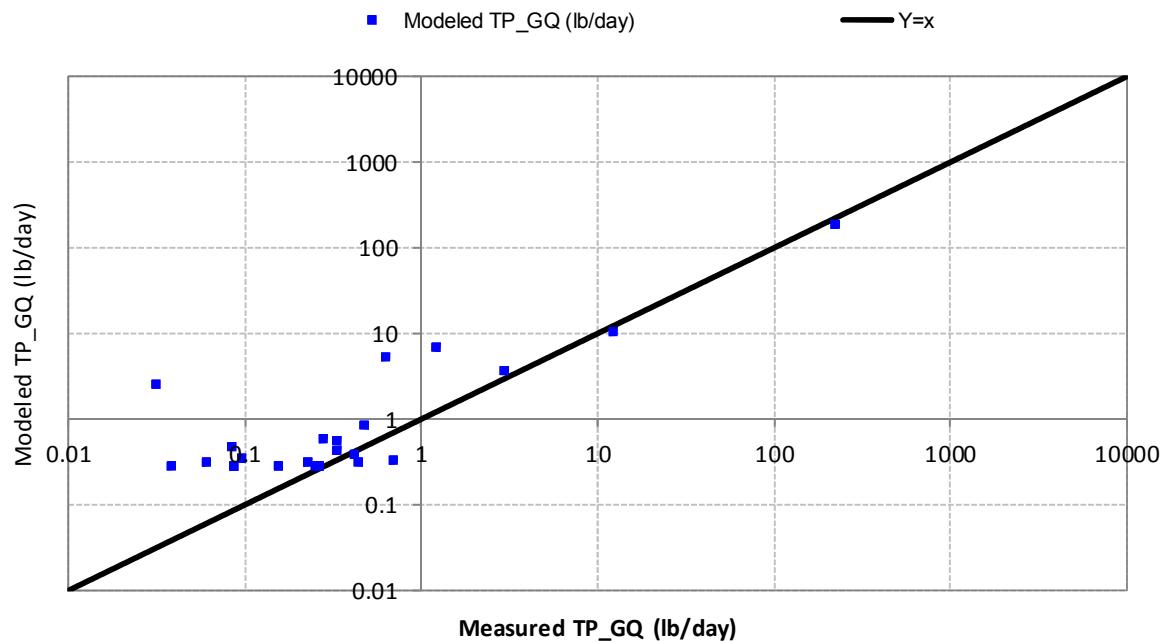


Figure B-140 Modeled vs. Observed Load TP_GQ at 03298005

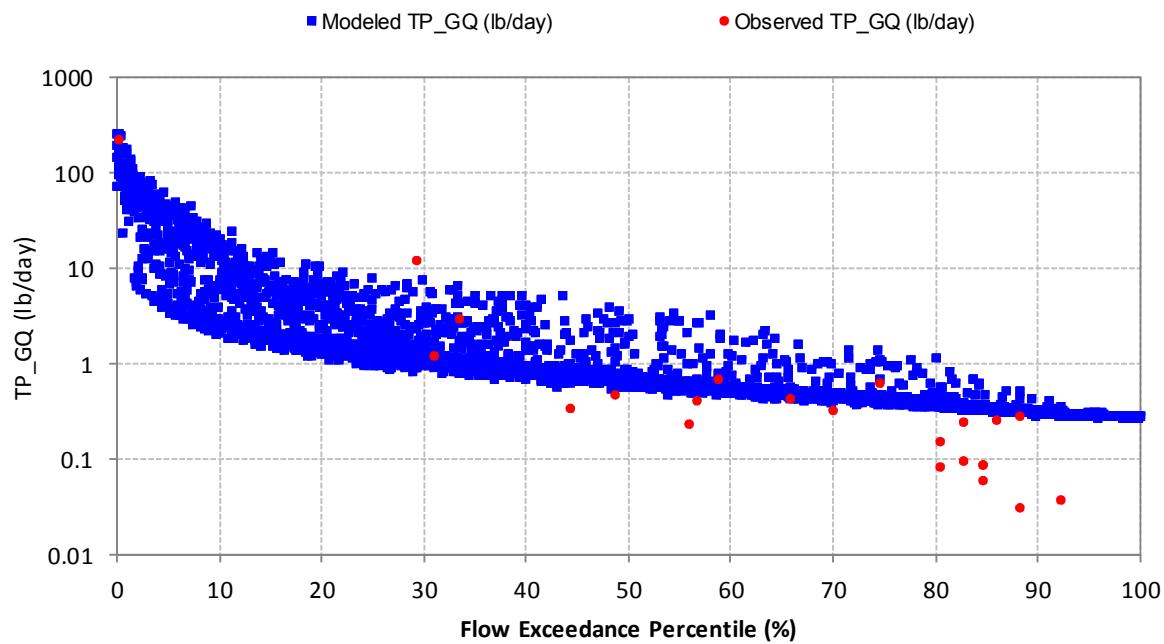


Figure B-141 Modeled vs. Observed Load TP_GQ at 03298005

Table B-29 Modeled vs. Observed Load TP_GQ at 03298005

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	1,680	1,804	-6.91	1,414	18.79
2008	1,749	1,242	40.84	761	129.77

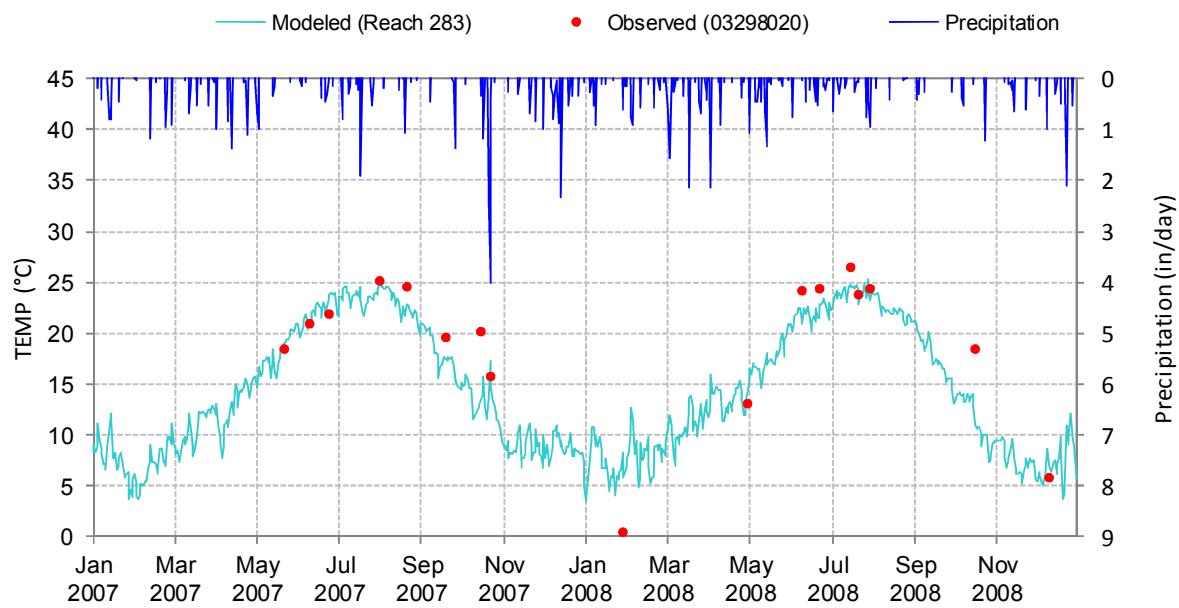


Figure B-142 Modeled vs. Observed TEMP (°C) at 03298020

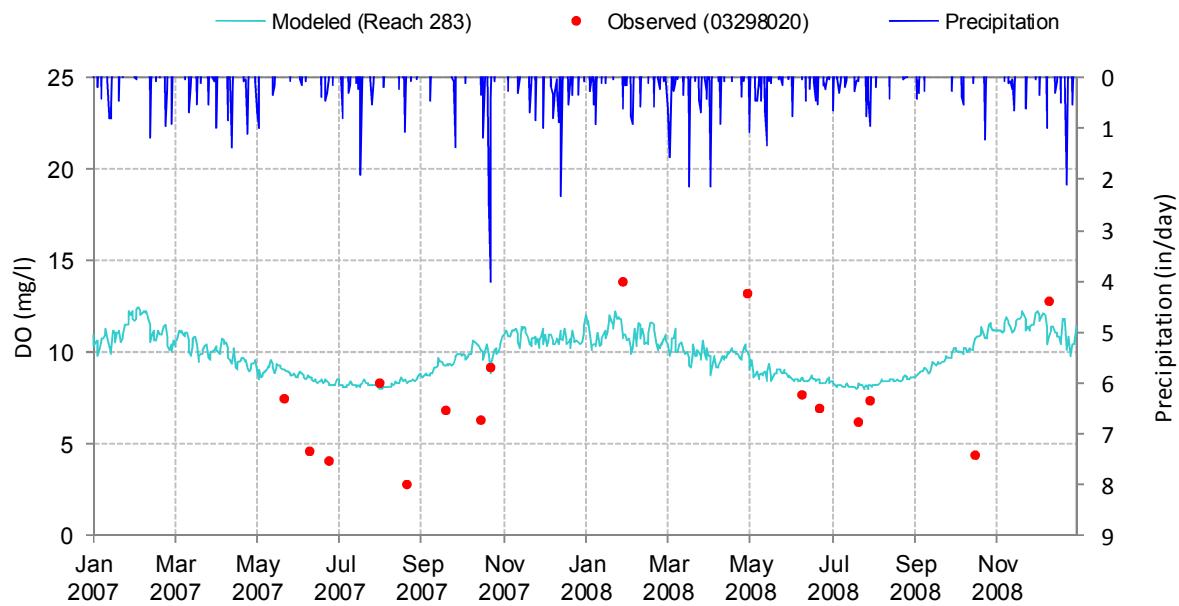


Figure B-143 Modeled vs. Observed DO (mg/l) at 03298020

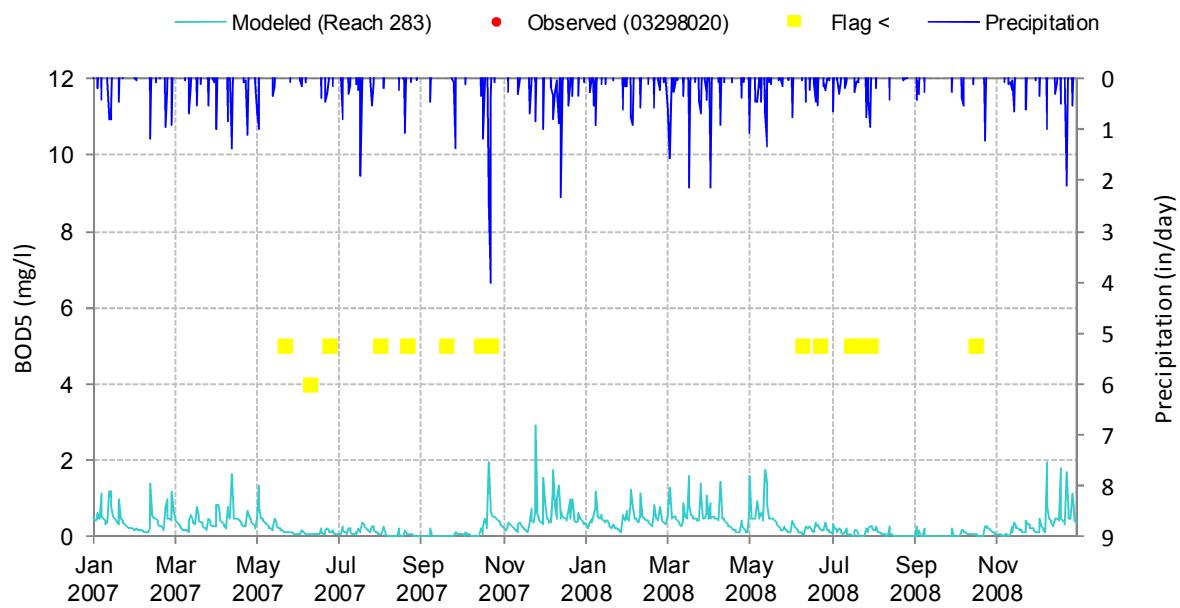


Figure B-144 Modeled vs. Observed BOD5 (mg/l) at 03298020

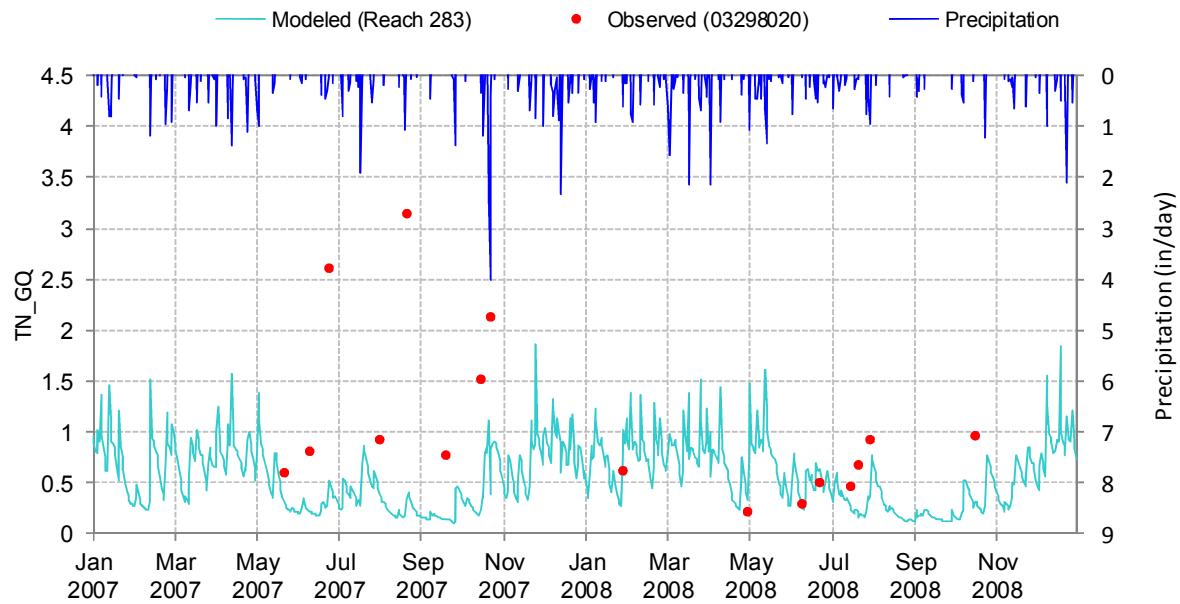


Figure B-145 Modeled vs. Observed TN_GQ at 03298020

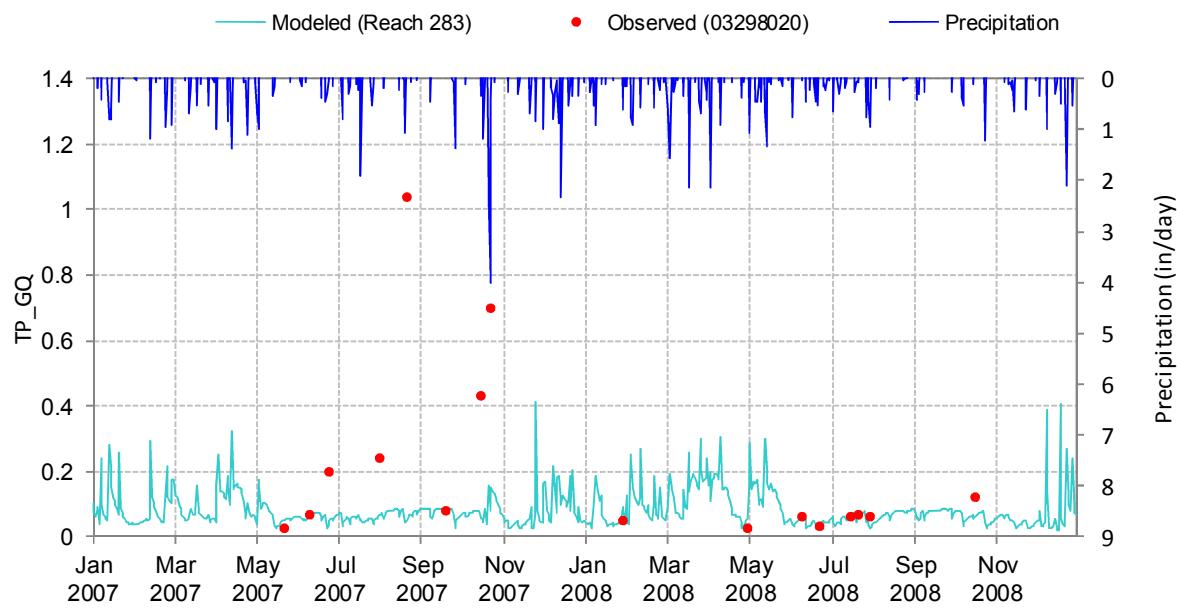


Figure B-146 Modeled vs. Observed TP_GQ at 03298020

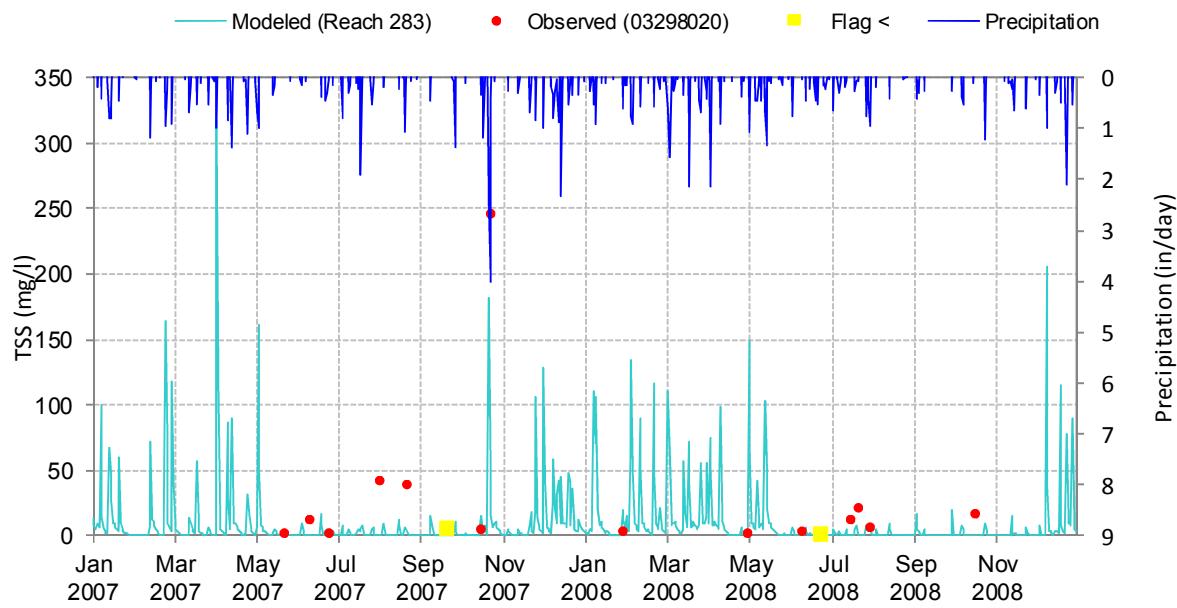


Figure B-147 Modeled vs. Observed TSS (mg/l) at 03298020

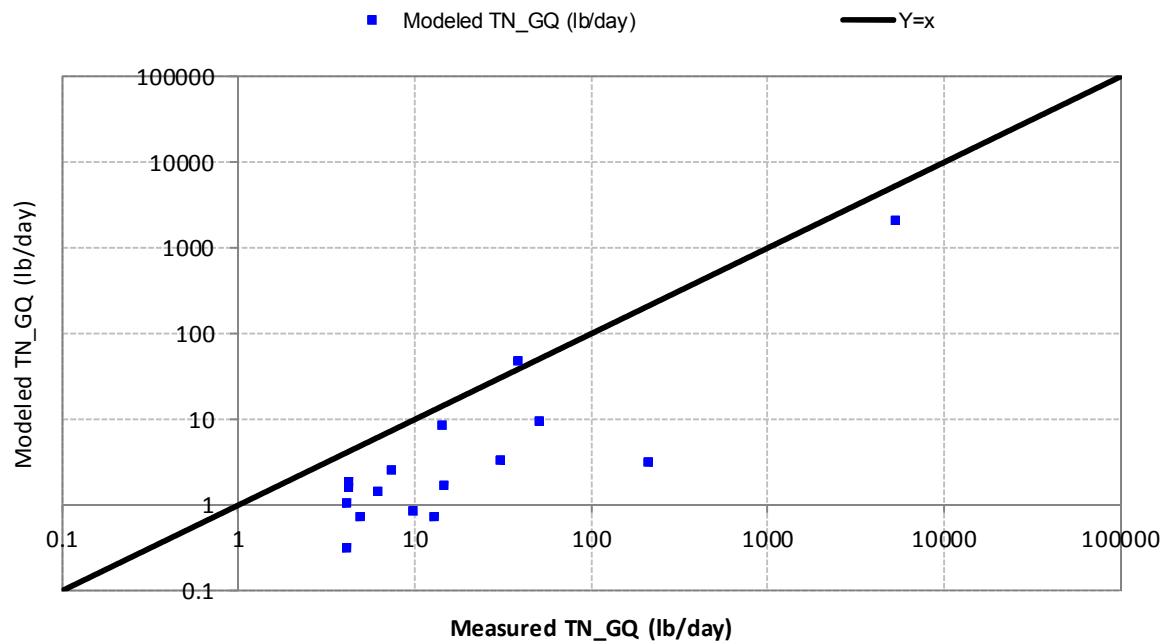


Figure B-148 Modeled vs. Observed Load TN_GQ at 03298020

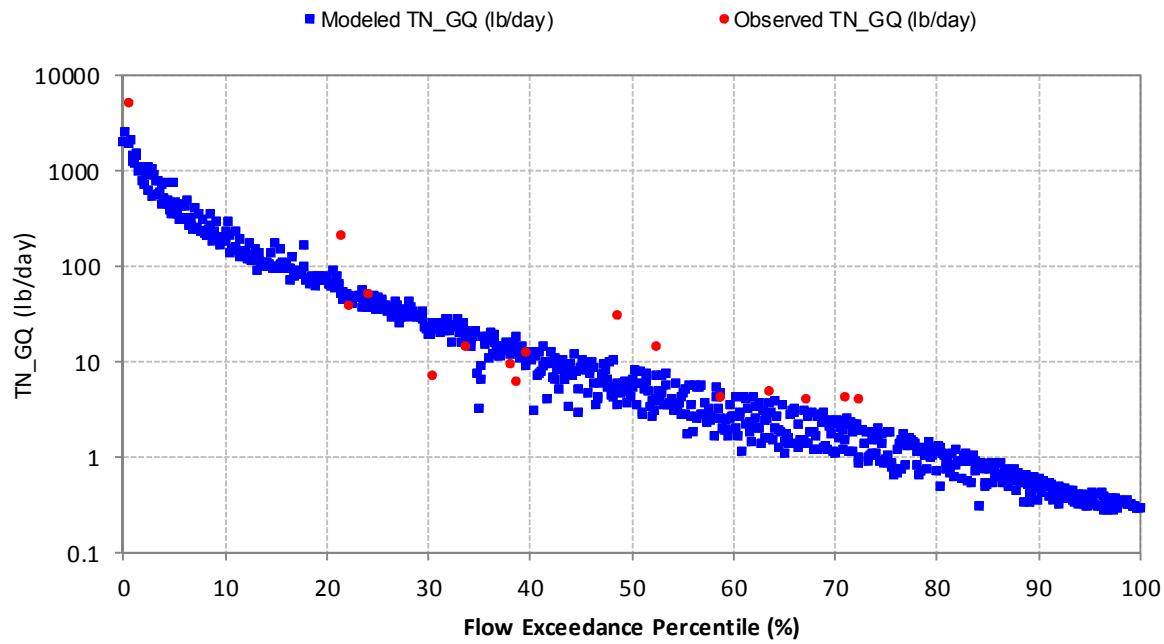


Figure B-149 Modeled vs. Observed Load TN_GQ at 03298020

Table B-30 Modeled vs. Observed Load TN_GQ at 03298020

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	29,448	51,636	43,014	-42.97	43,014	-31.54
2008	33,752	34,818	24,724	-3.06	24,724	36.52

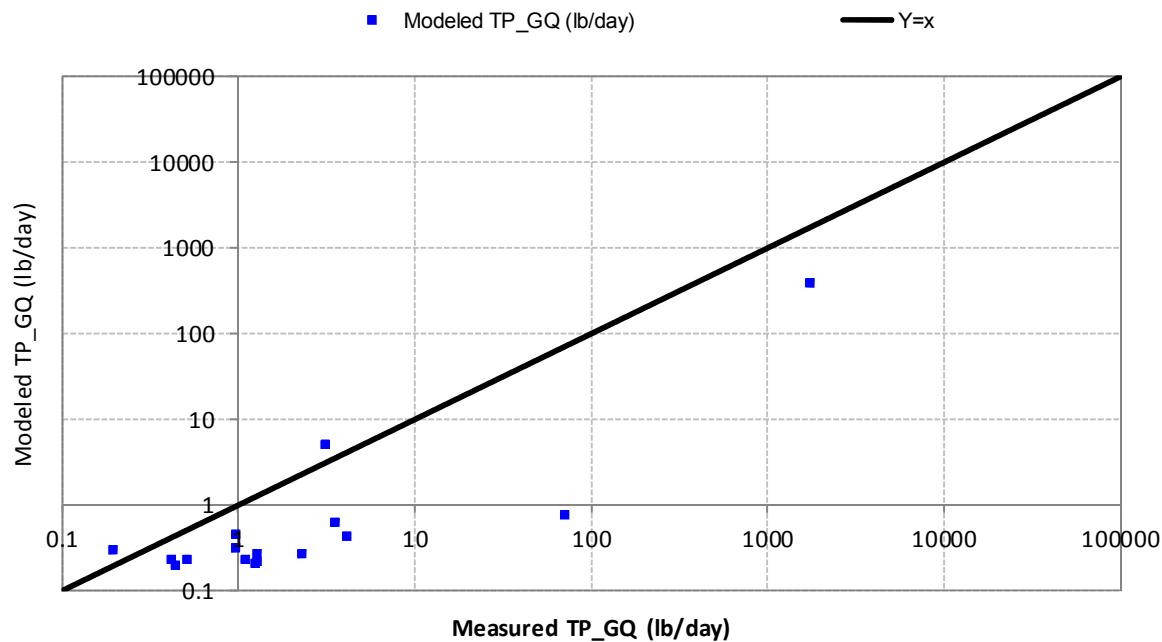


Figure B-150 Modeled vs. Observed Load TP_GQ at 03298020

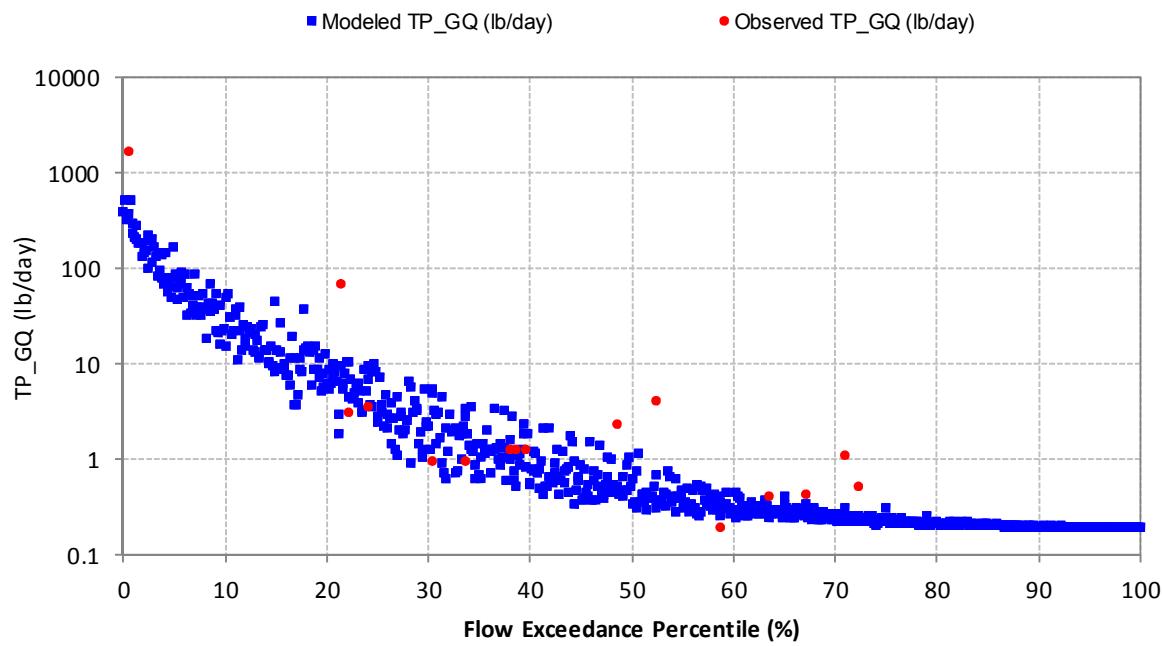


Figure B-151 Modeled vs. Observed Load TP_GQ at 03298020

Table B-31 Modeled vs. Observed Load TP_GQ at 03298020

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	4,655	12,545	-62.89	9,018	-48.38	
2008	6,030	4,938	22.1	2,984	102.08	

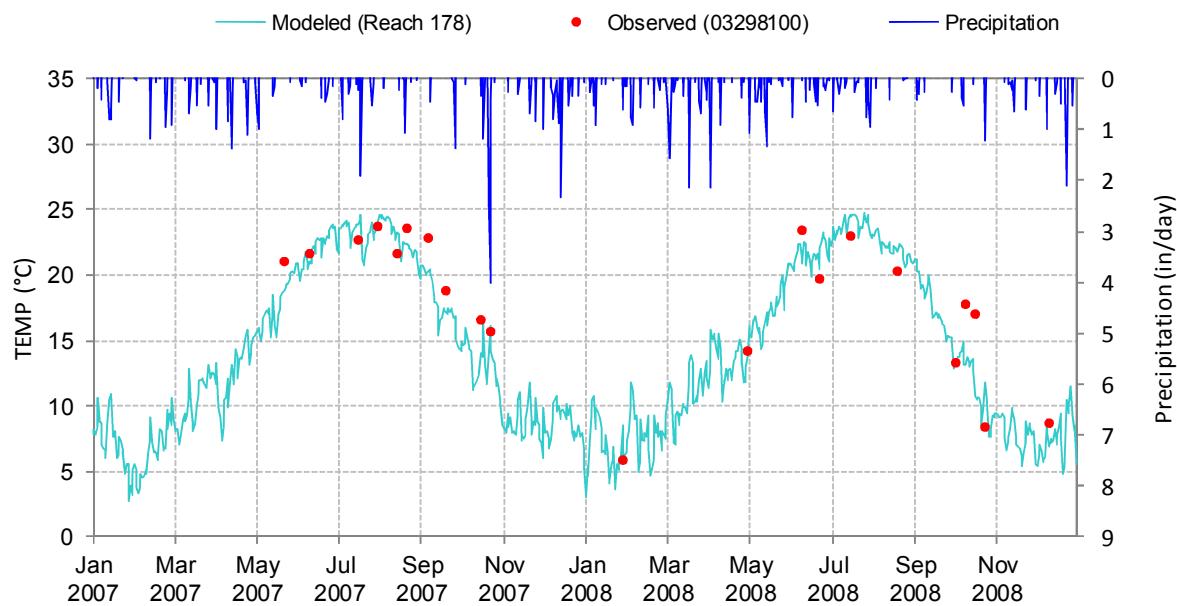


Figure B-152 Modeled vs. Observed TEMP (°C) at 03298100

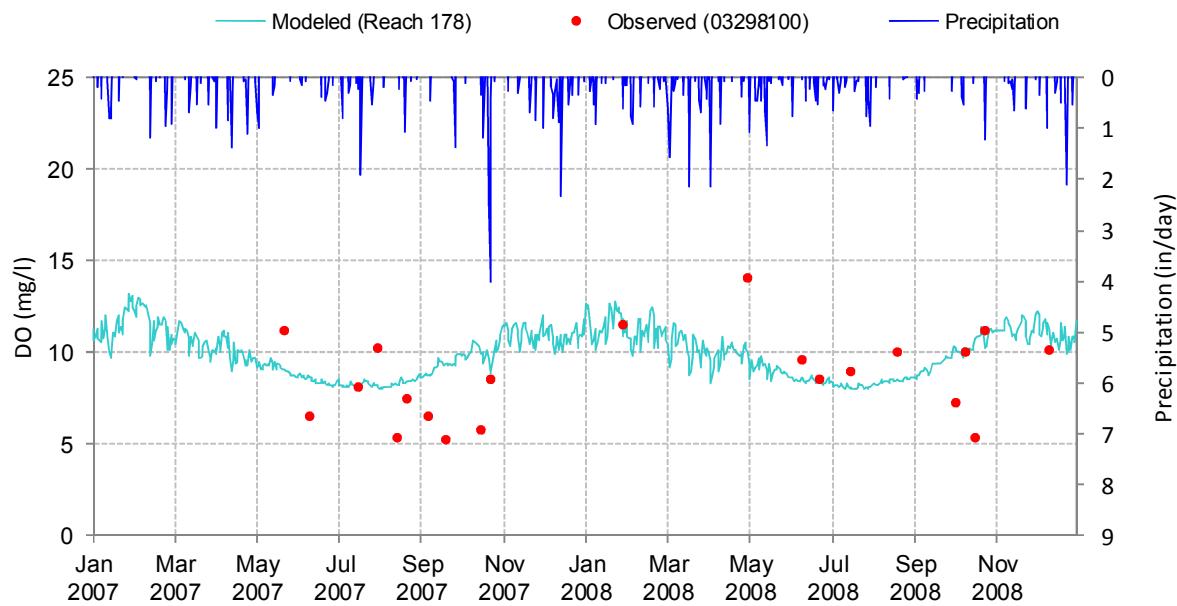


Figure B-153 Modeled vs. Observed DO (mg/l) at 03298100

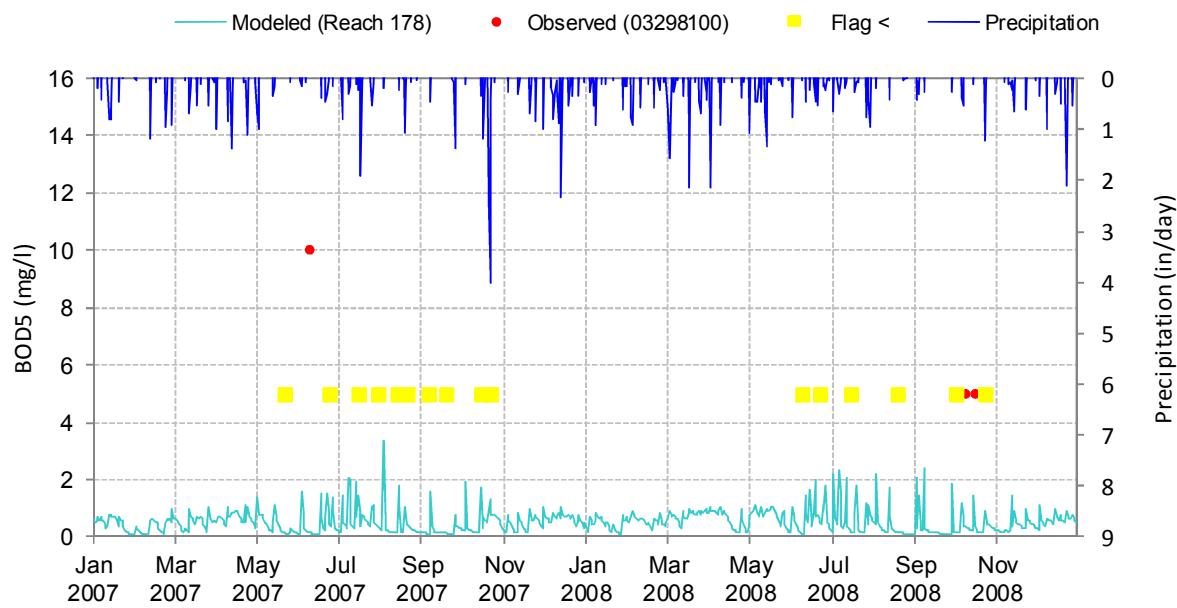


Figure B-154 Modeled vs. Observed BOD5 (mg/l) at 03298100

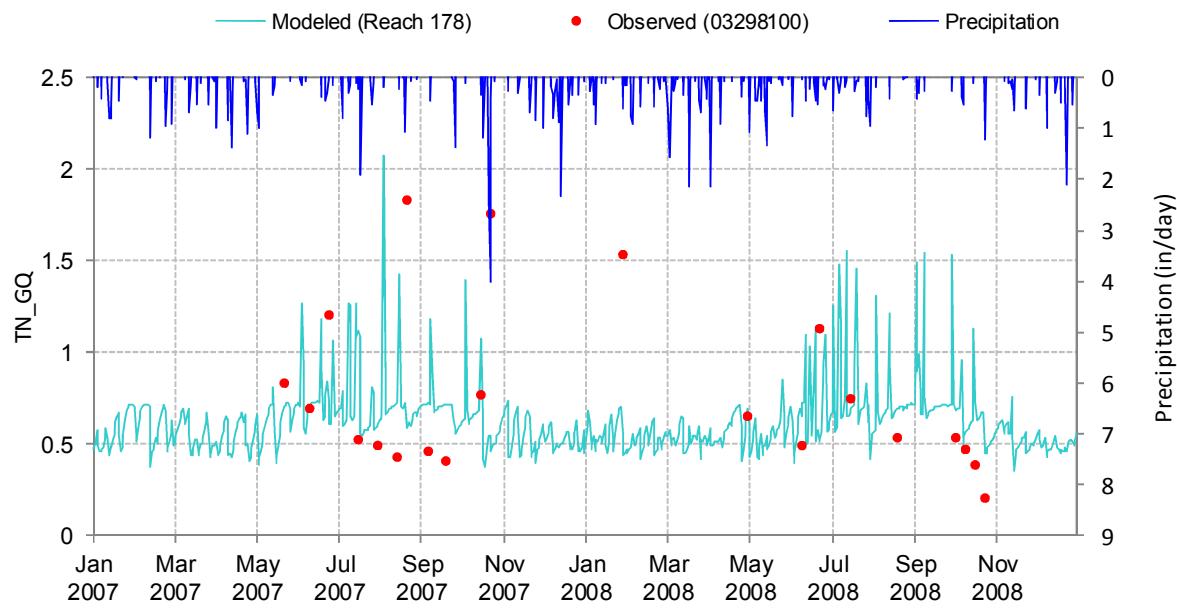


Figure B-155 Modeled vs. Observed TN_GQ at 03298100

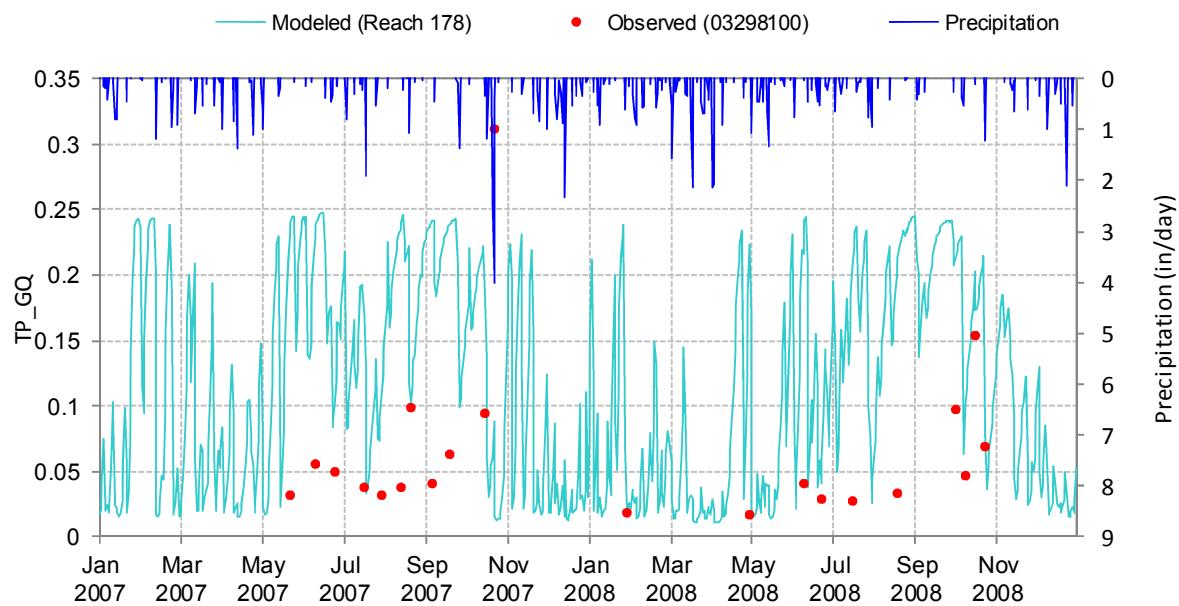


Figure B-156 Modeled vs. Observed TP_GQ at 03298100

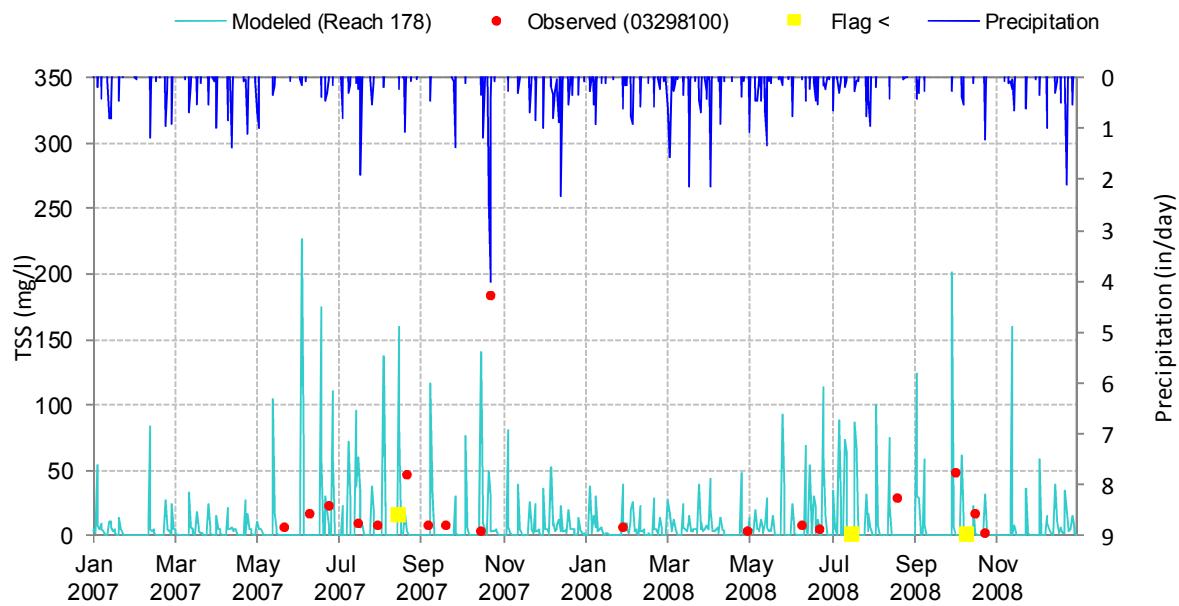


Figure B-157 Modeled vs. Observed TSS (mg/l) at 03298100

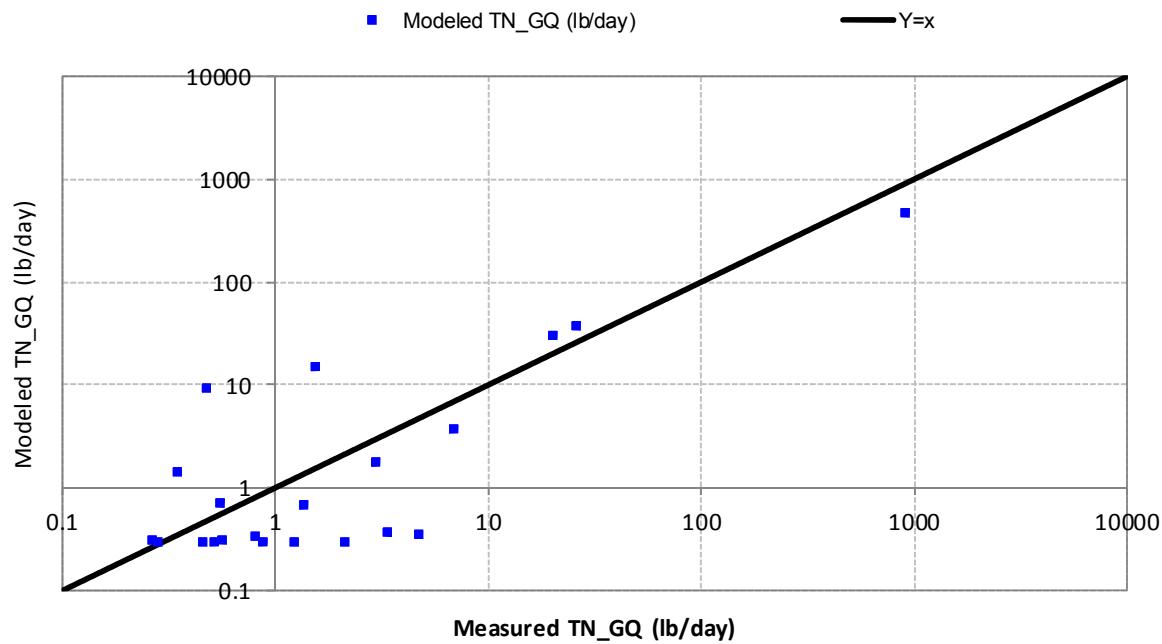


Figure B-158 Modeled vs. Observed Load TN_GQ at 03298100

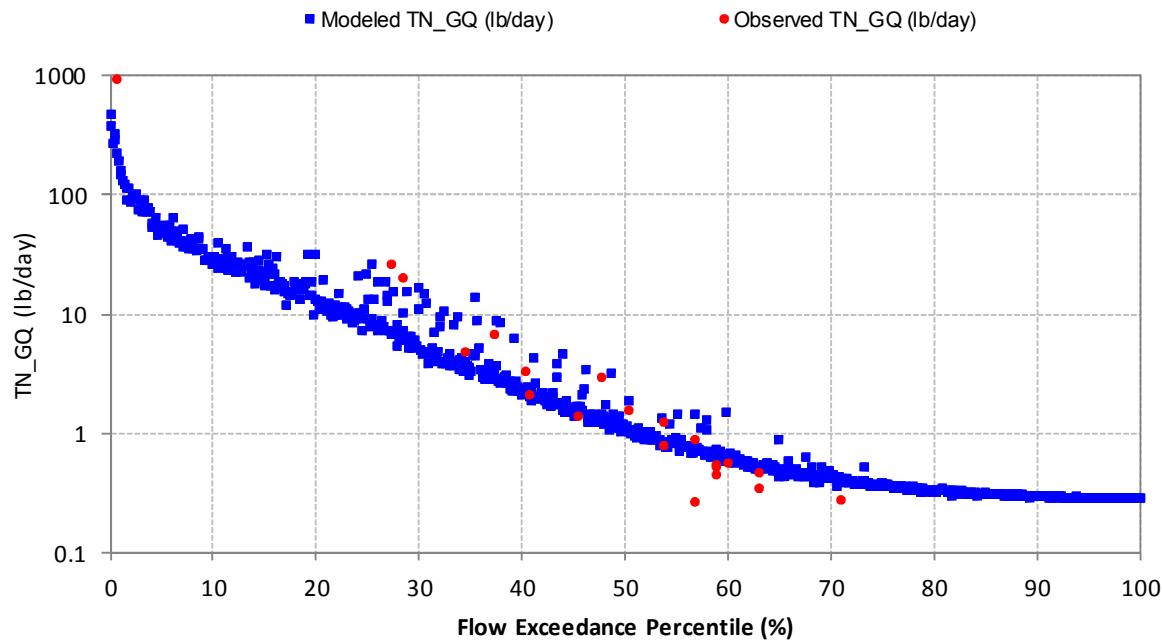


Figure B-159 Modeled vs. Observed Load TN_GQ at 03298100

Table B-32 Modeled vs. Observed Load TN_GQ at 03298100

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	4,444		10,227	-56.55	9,949	-55.34
2008	4,811		13,956	-65.53	10,738	-55.2

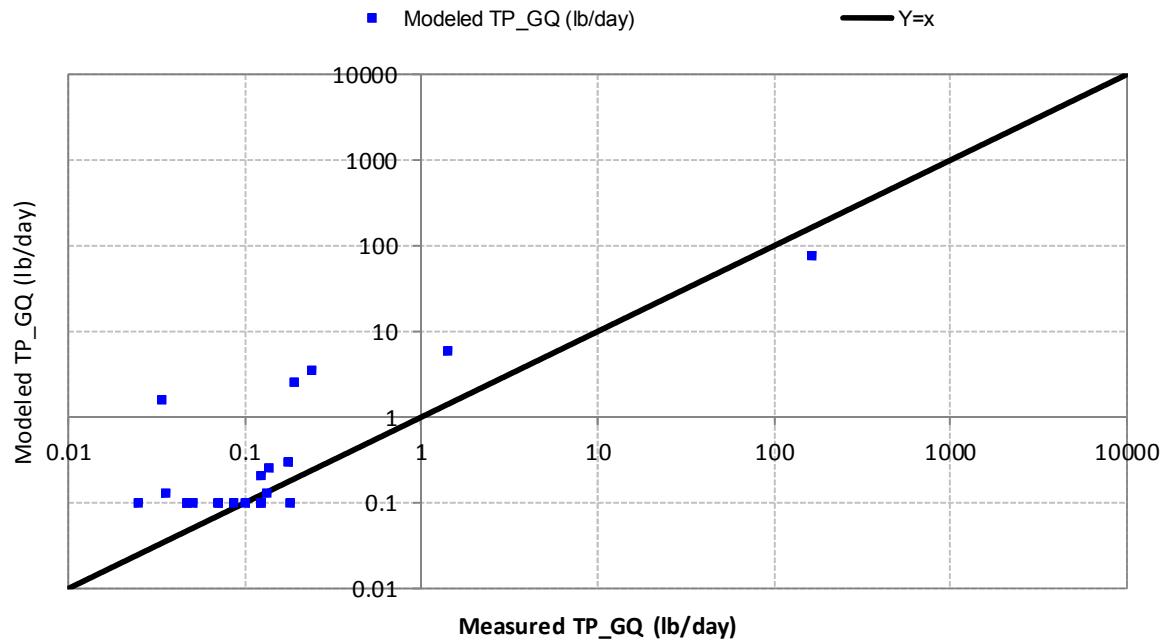


Figure B-160 Modeled vs. Observed Load TP_GQ at 03298100

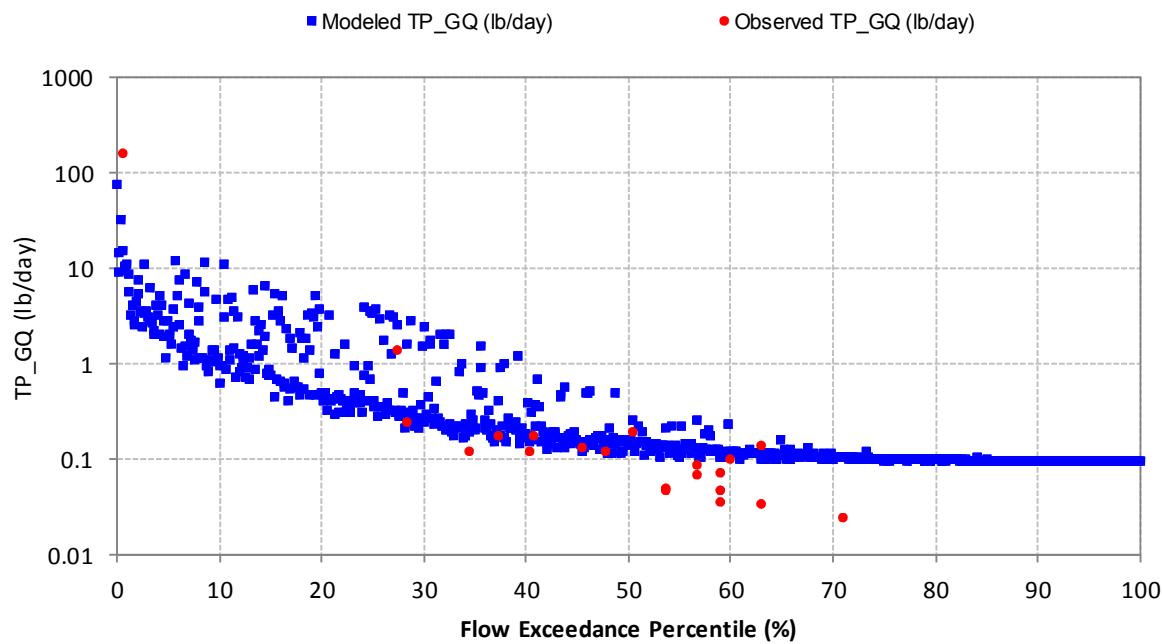


Figure B-161 Modeled vs. Observed Load TP_GQ at 03298100

Table B-33 Modeled vs. Observed Load TP_GQ at 03298100

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	399	1,242	-67.85	903	-55.8	
2008	307	462	-33.52	292	5.21	

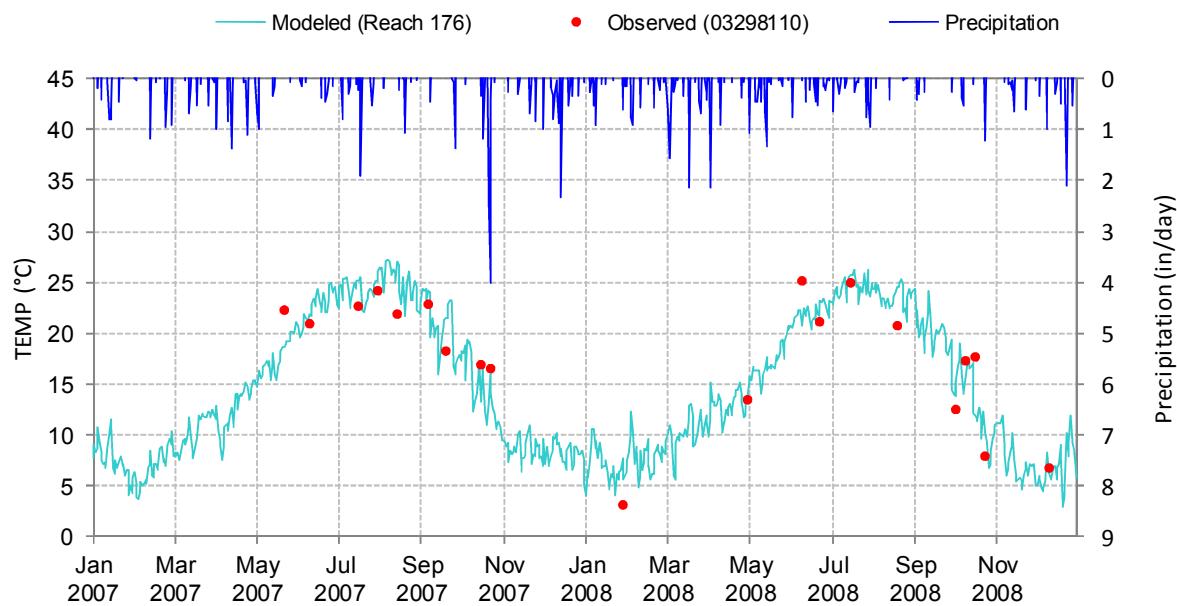


Figure B-162 Modeled vs. Observed TEMP (°C) at 03298110

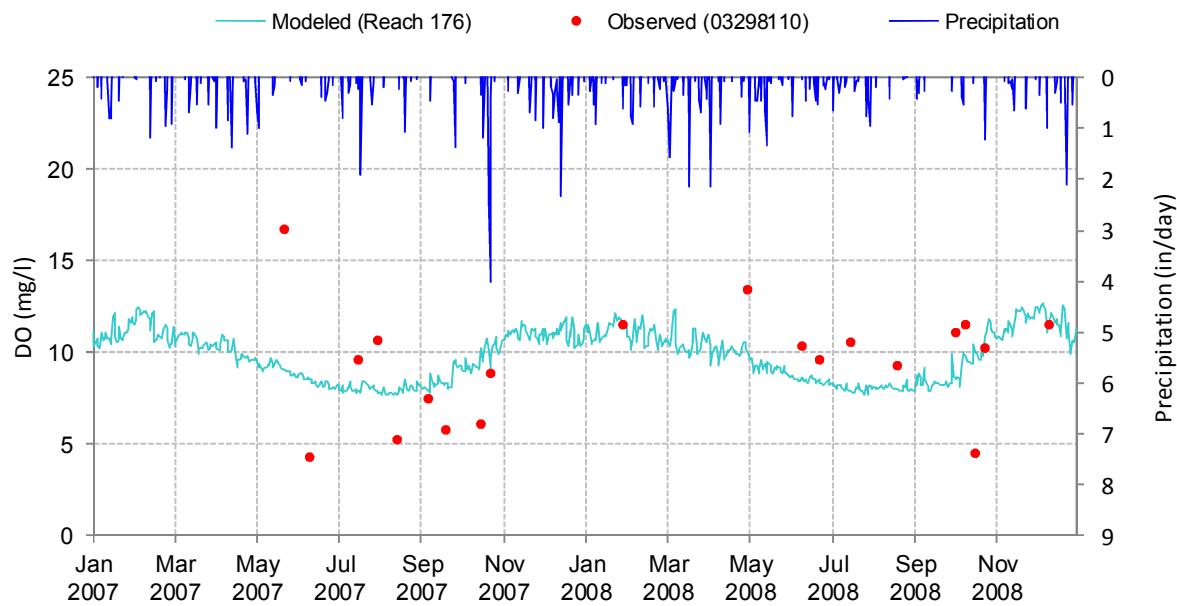


Figure B-163 Modeled vs. Observed DO (mg/l) at 03298110

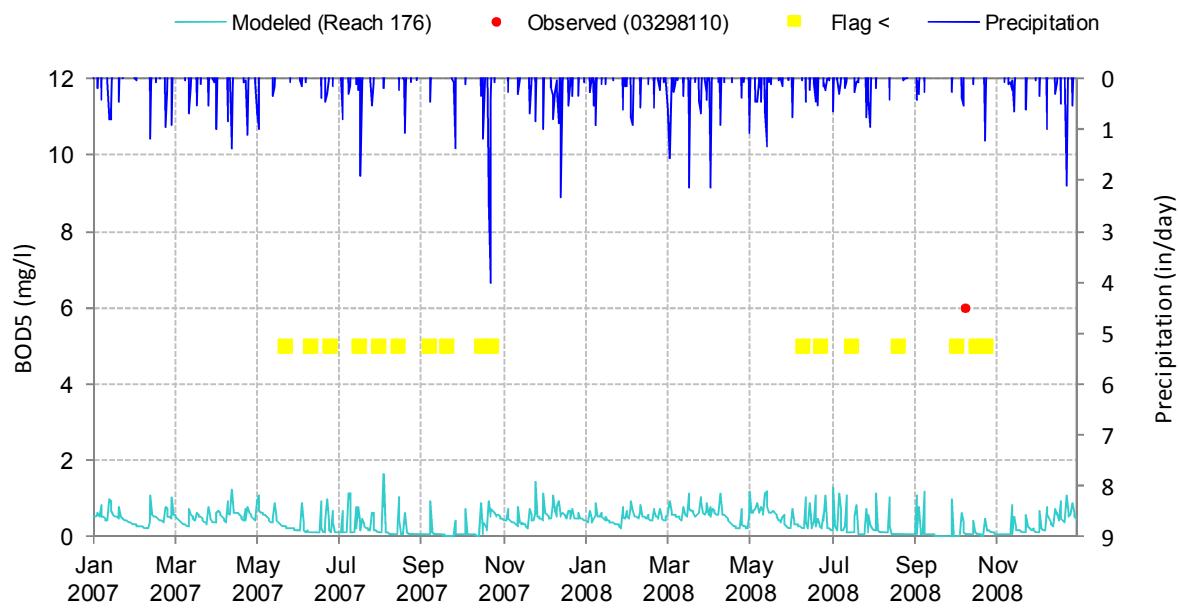


Figure B-164 Modeled vs. Observed BOD5 (mg/l) at 03298110

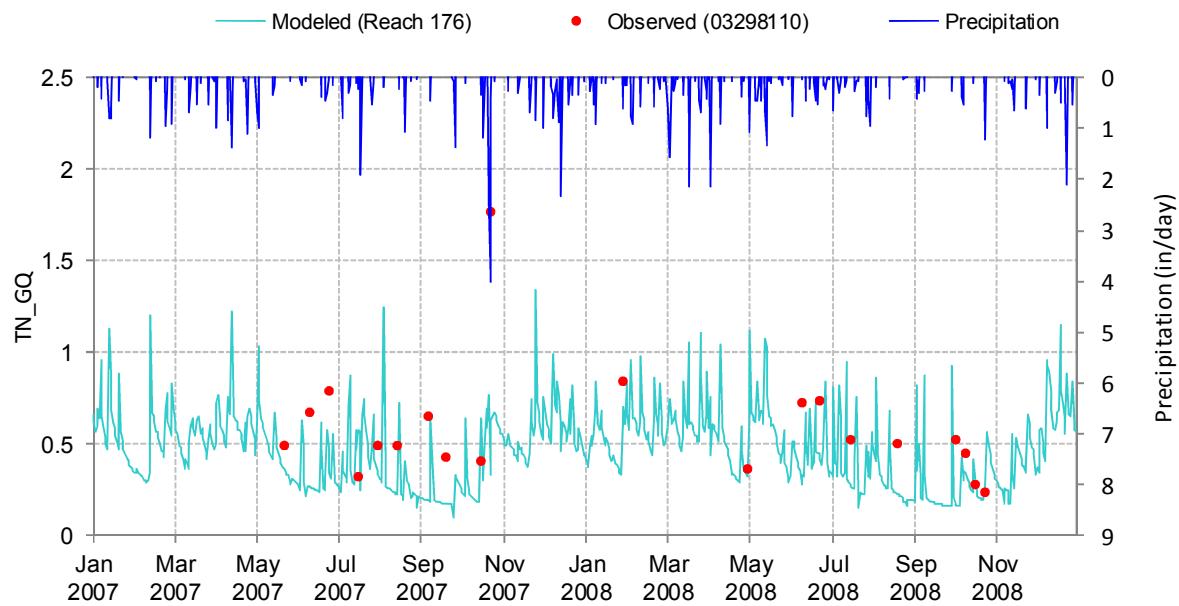


Figure B-165 Modeled vs. Observed TN_GQ at 03298110

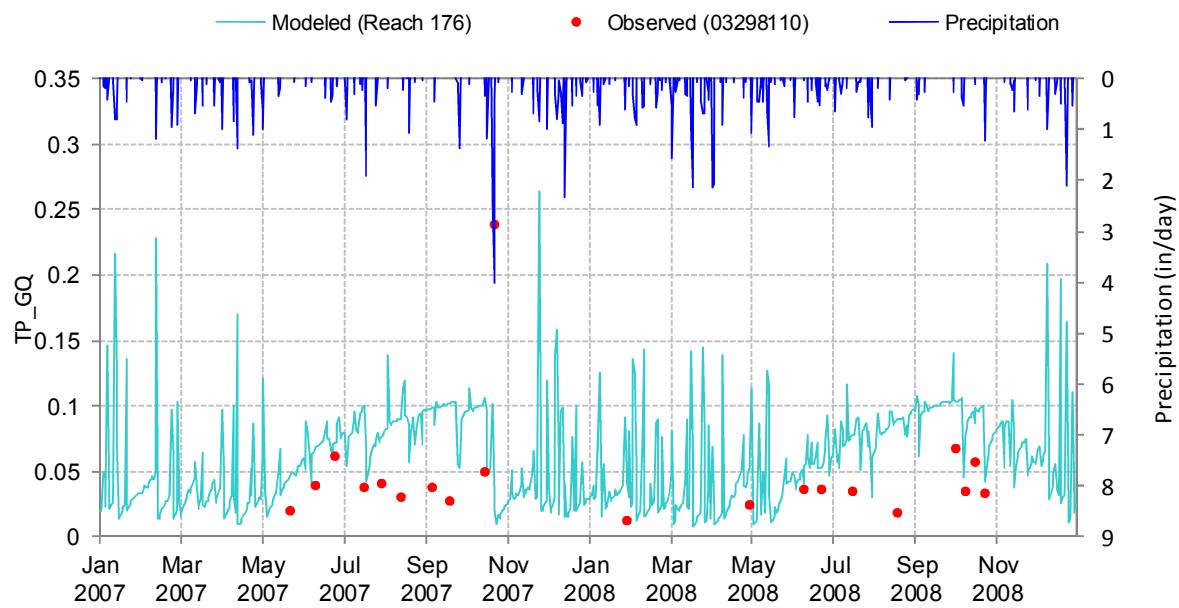


Figure B-166 Modeled vs. Observed TP_GQ at 03298110

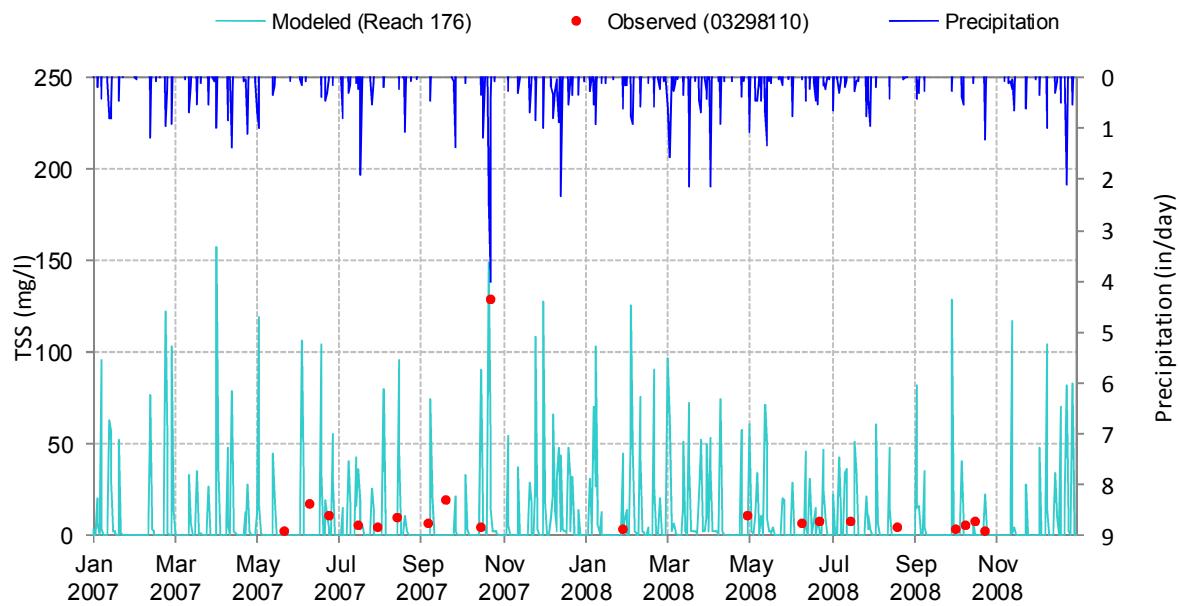


Figure B-167 Modeled vs. Observed TSS (mg/l) at 03298110

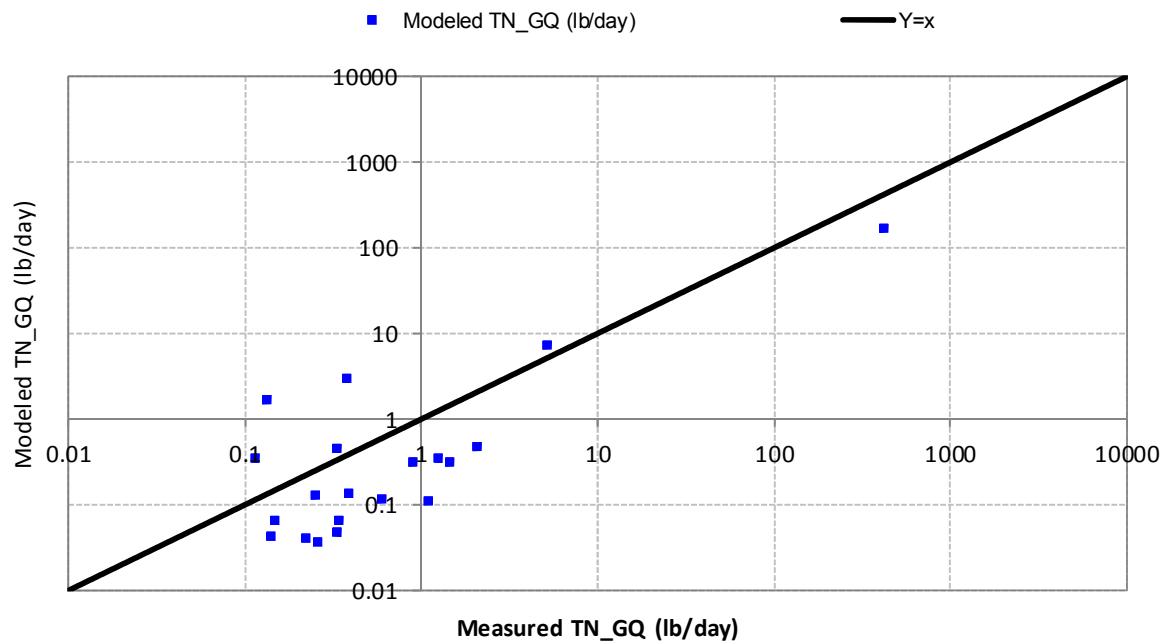


Figure B-168 Modeled vs. Observed Load TN_GQ at 03298110

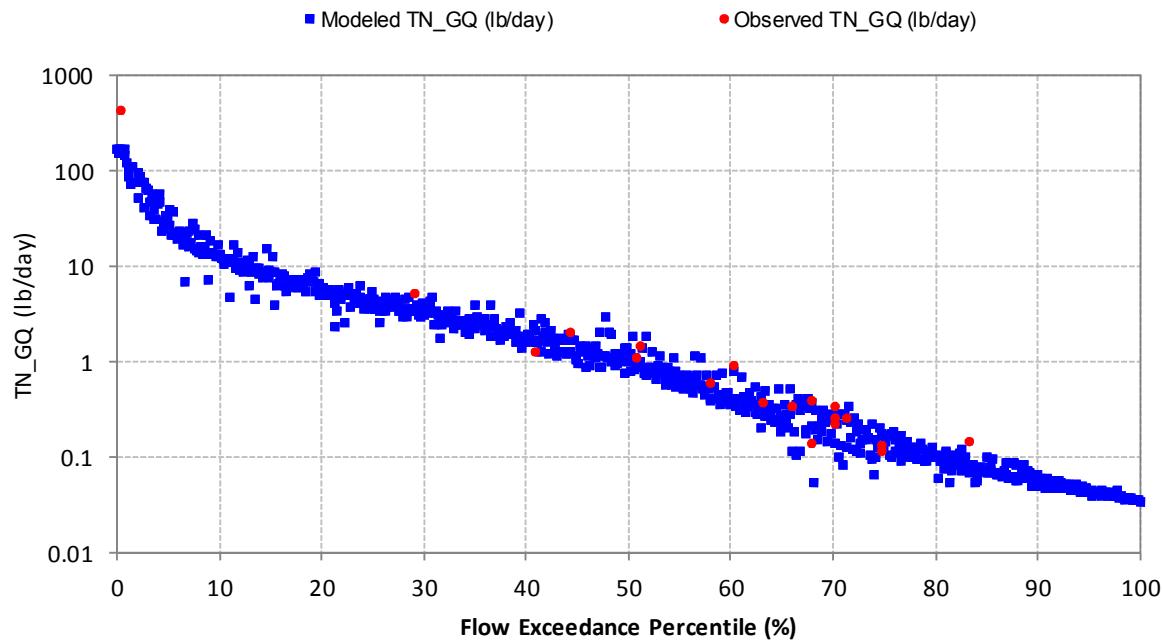


Figure B-169 Modeled vs. Observed Load TN_GQ at 03298110

Table B-34 Modeled vs. Observed Load TN_GQ at 03298110

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	2,295		3,933	-41.66	3,440	-33.28
2008	2,665		3,881	-31.32	2,976	-10.45

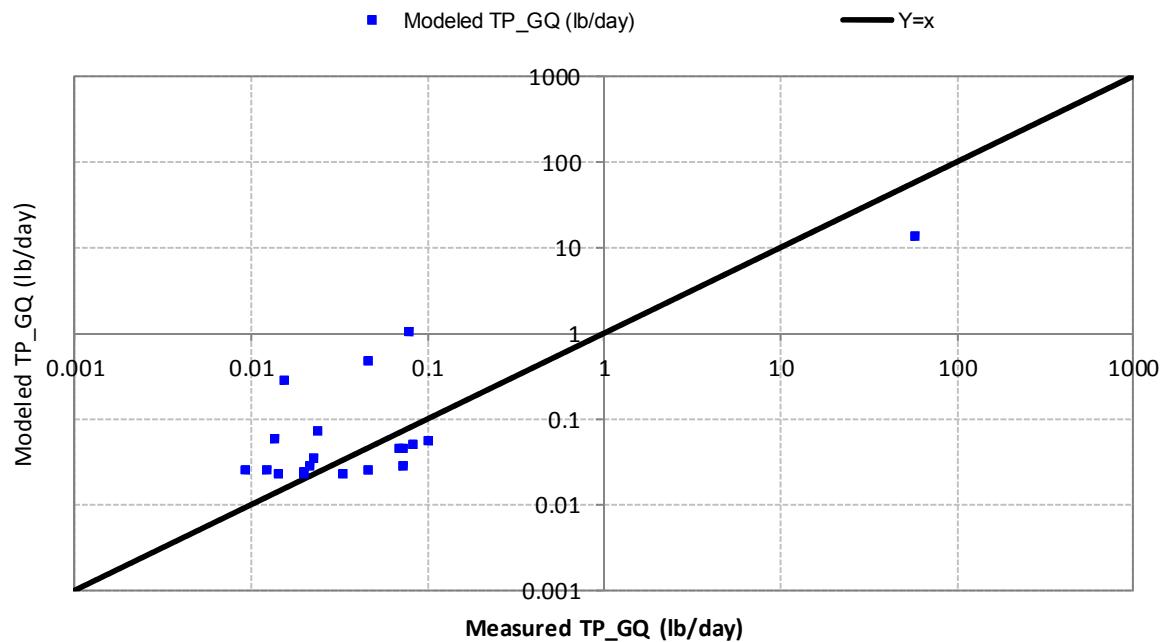


Figure B-170 Modeled vs. Observed Load TP_GQ at 03298110

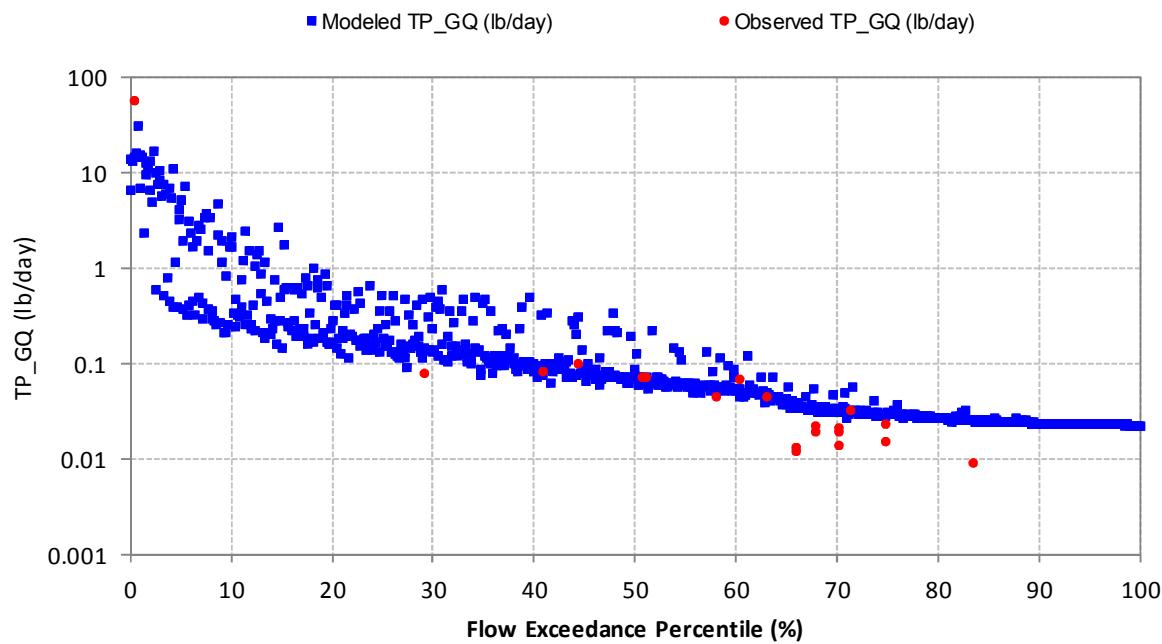


Figure B-171 Modeled vs. Observed Load TP_GQ at 03298110

Table B-35 Modeled vs. Observed Load TP_GQ at 03298110

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	226	428	-47.14	309	-26.65	
2008	242	162	48.87	125	93.21	

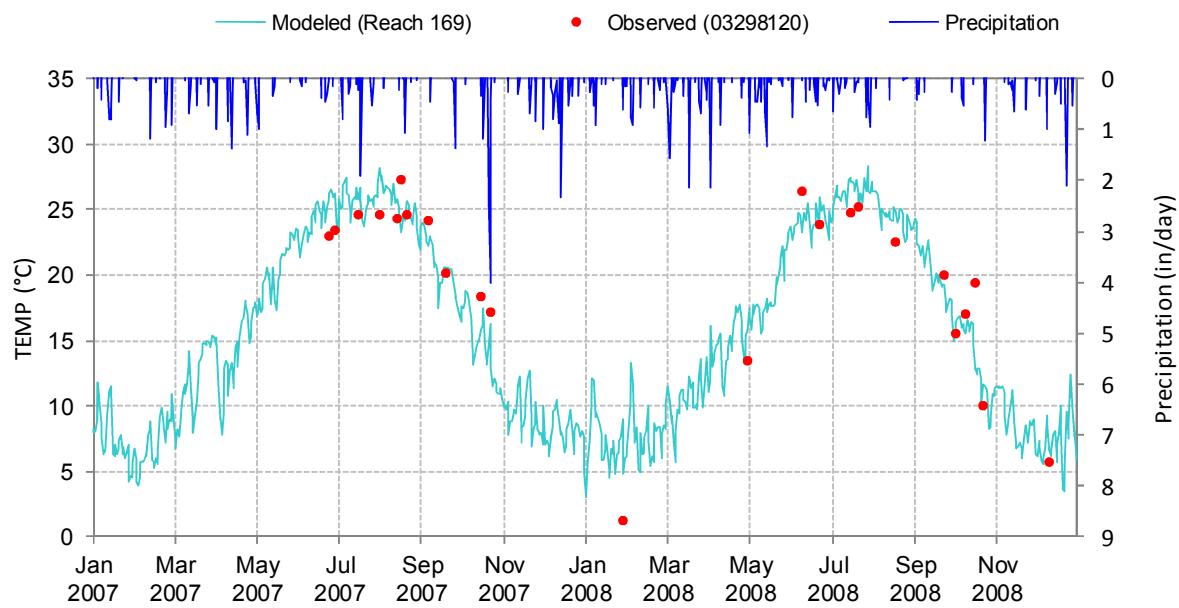


Figure B-172 Modeled vs. Observed TEMP (°C) at 03298120

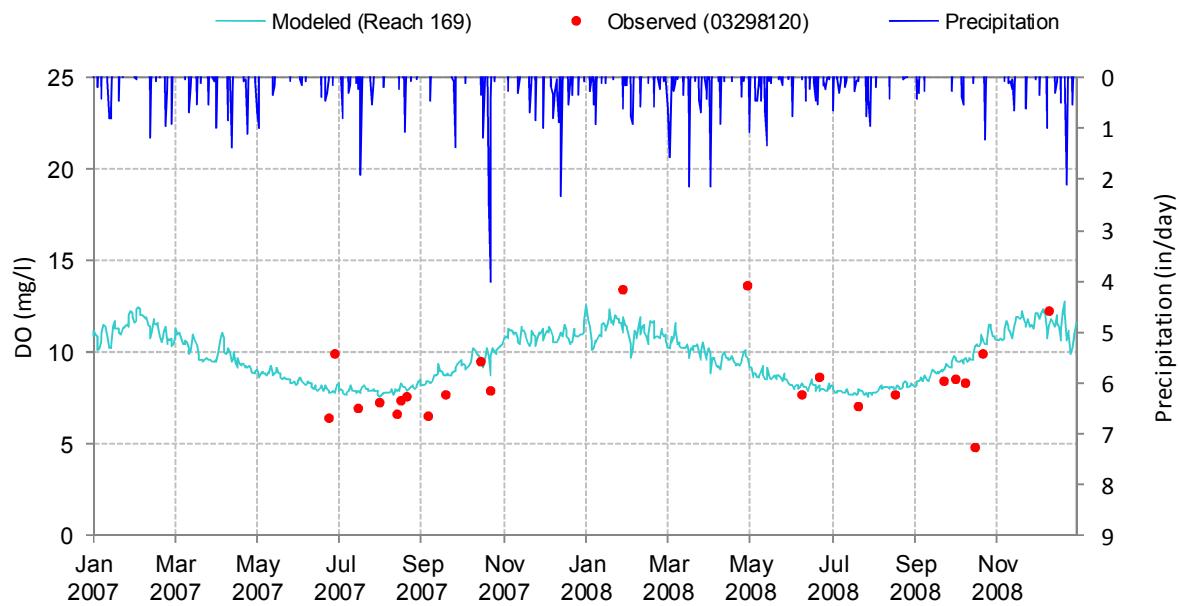


Figure B-173 Modeled vs. Observed DO (mg/l) at 03298120

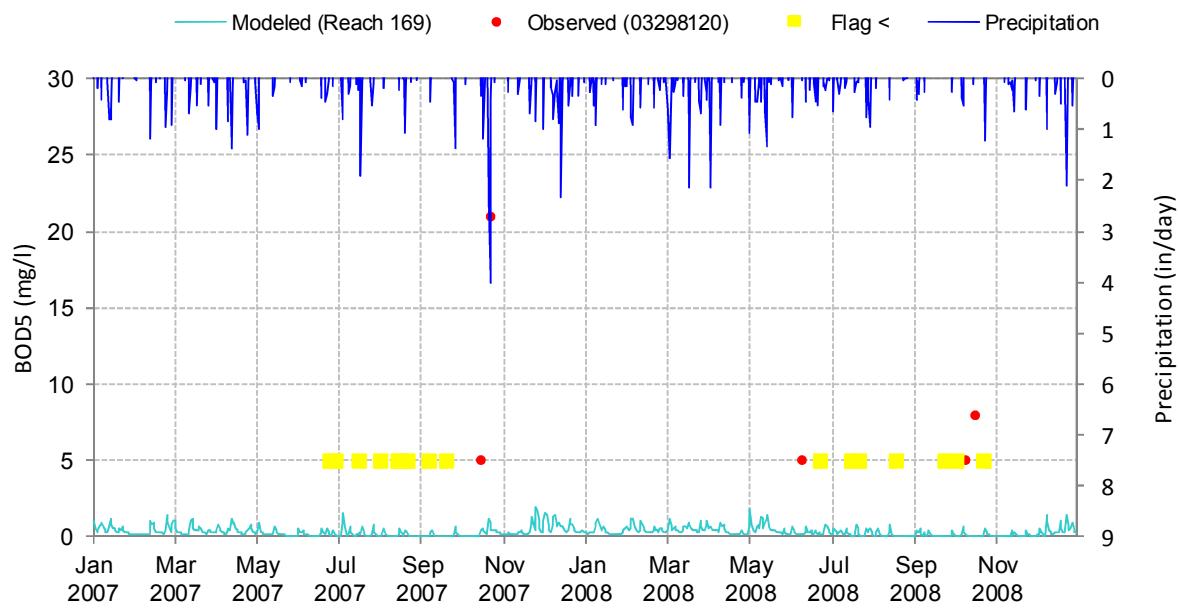


Figure B-174 Modeled vs. Observed BOD5 (mg/l) at 03298120

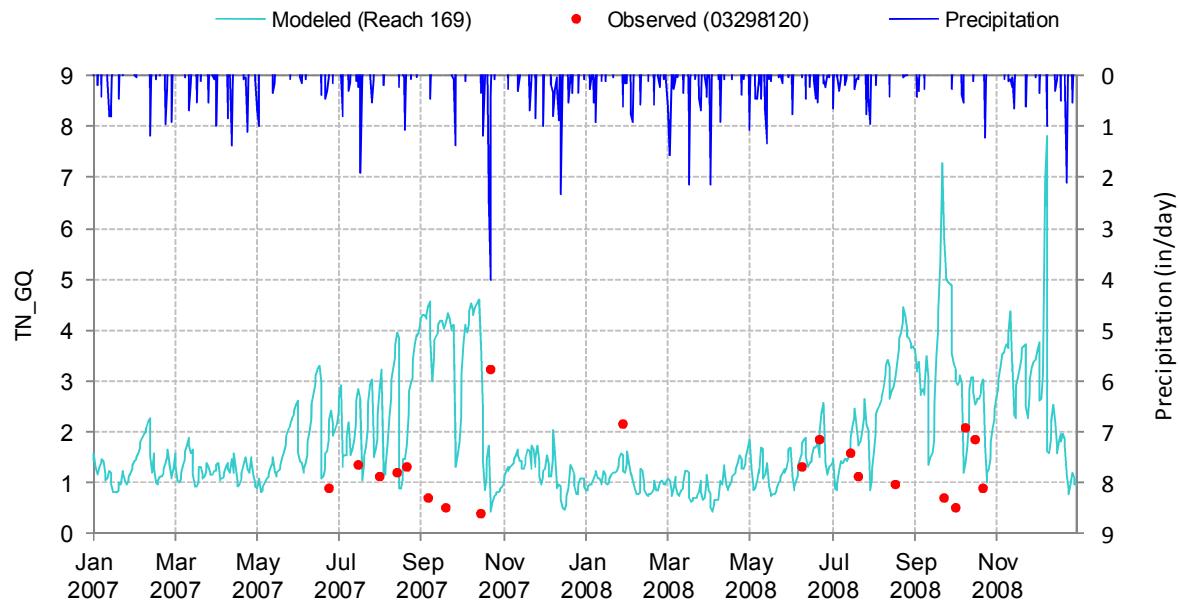


Figure B-175 Modeled vs. Observed TN_GQ at 03298120

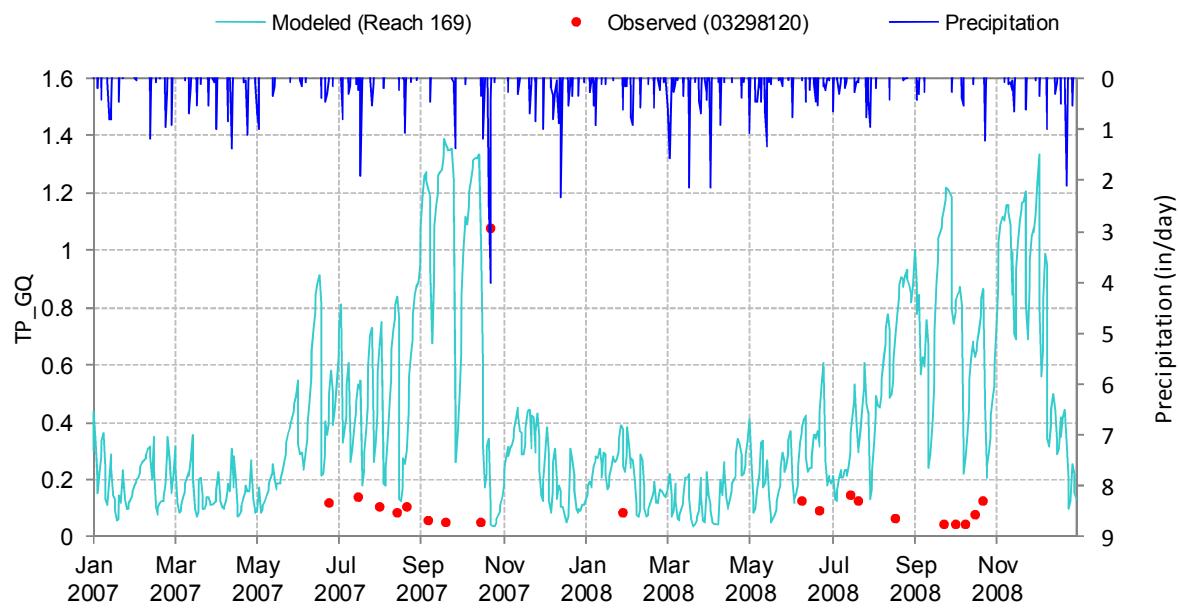


Figure B-176 Modeled vs. Observed TP_GQ at 03298120

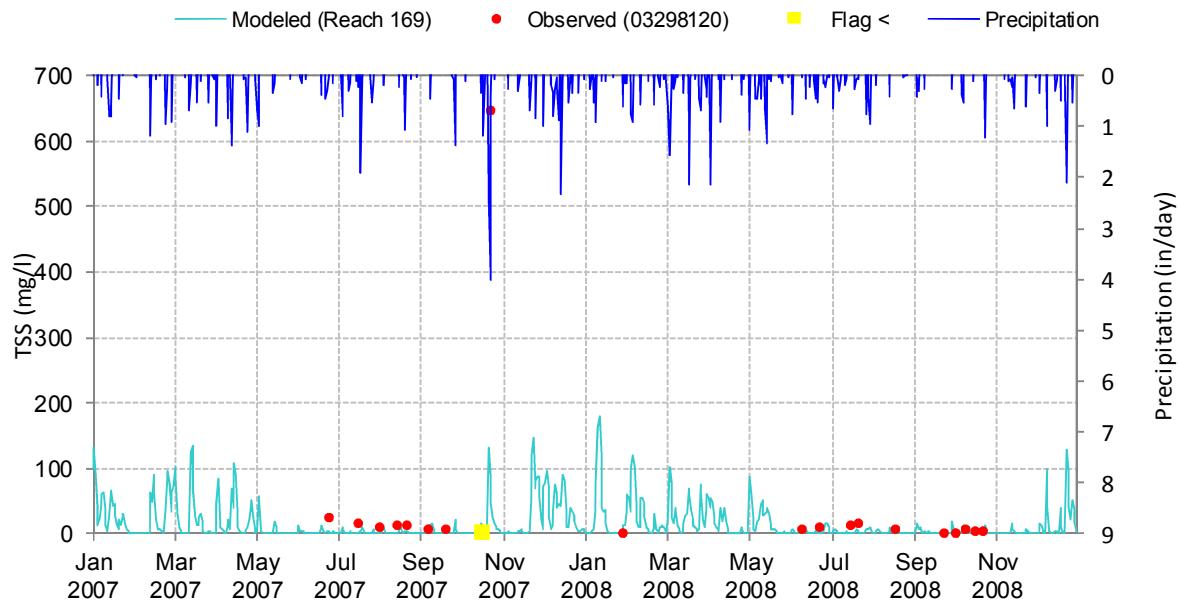


Figure B-177 Modeled vs. Observed TSS (mg/l) at 03298120

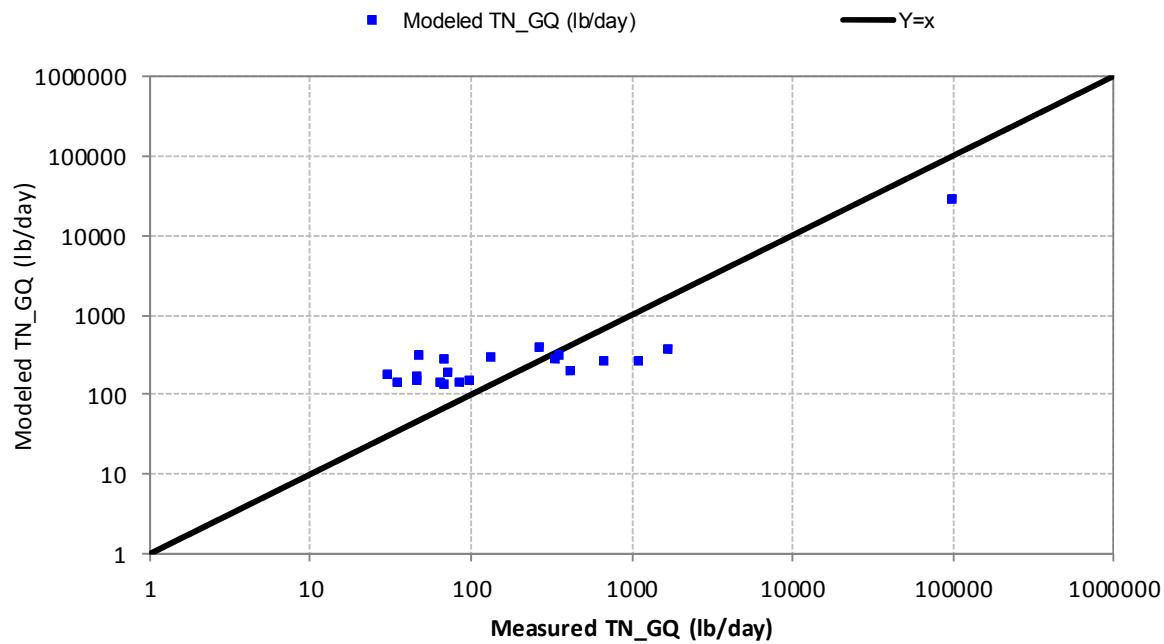


Figure B-178 Modeled vs. Observed Load TN_GQ at 03298120

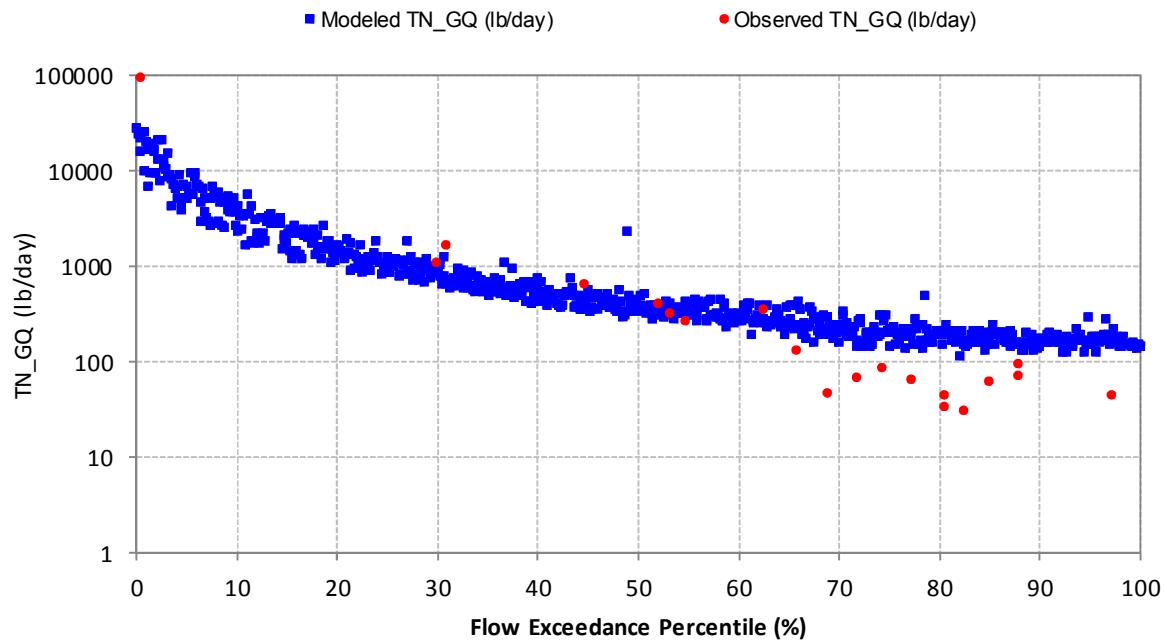


Figure B-179 Modeled vs. Observed Load TN_GQ at 03298120

Table B-36 Modeled vs. Observed Load TN_GQ at 03298120

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	504,956	908,350	-44.41	841,146	-39.97	
2008	573,157	1,327,766	-56.83	1,115,718	-48.63	

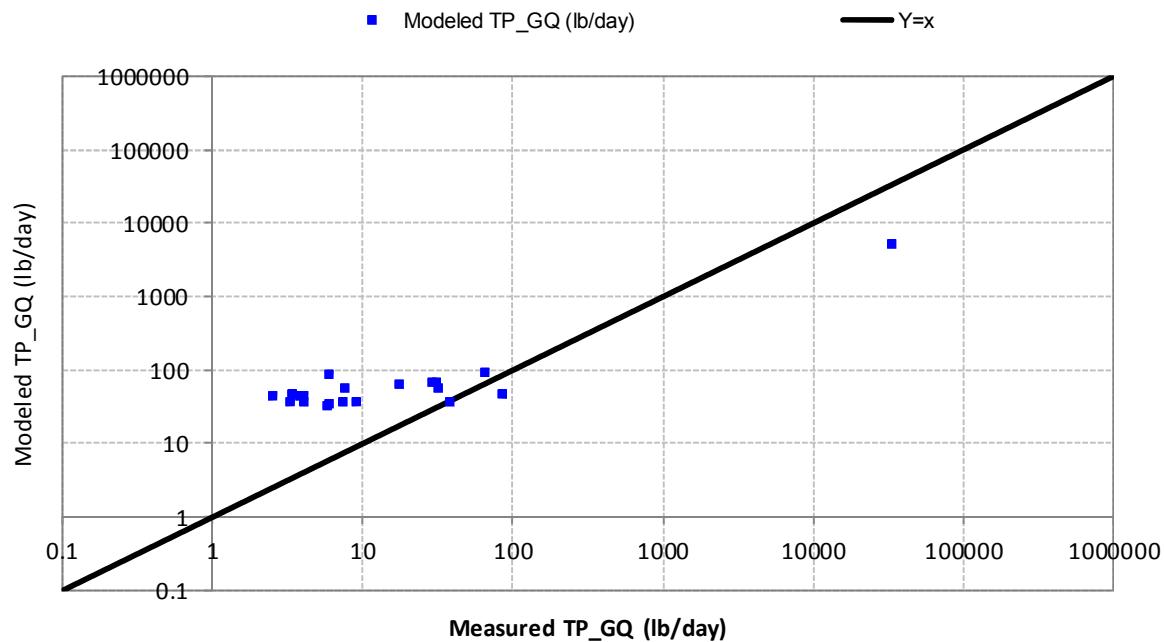


Figure B-180 Modeled vs. Observed Load TP_GQ at 03298120

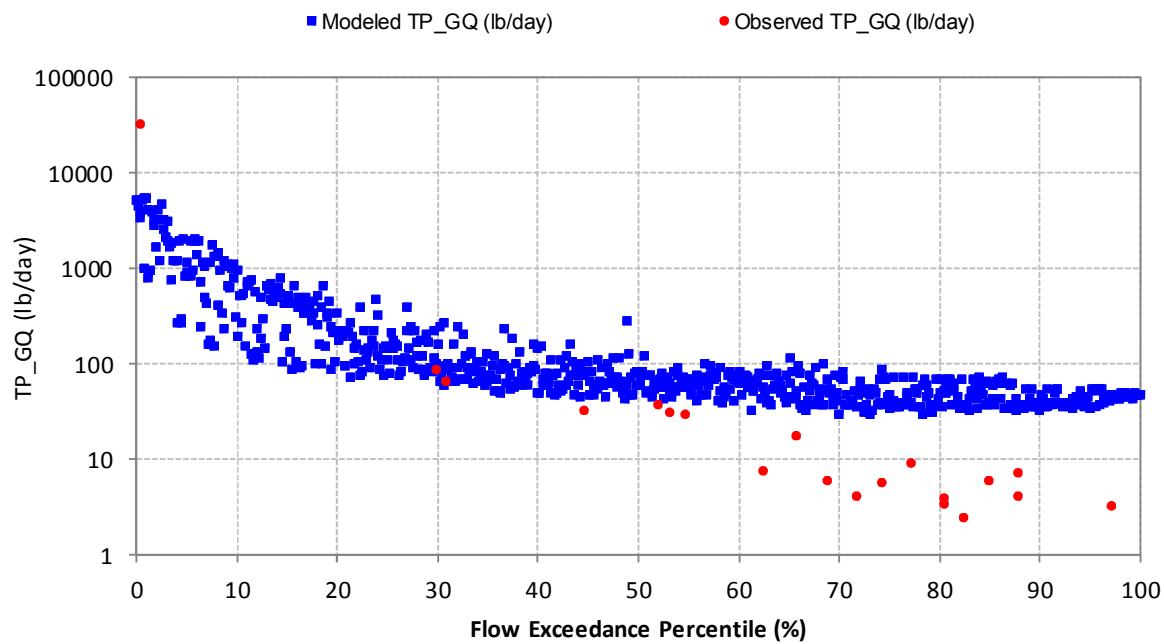


Figure B-181 Modeled vs. Observed Load TP_GQ at 03298120

Table B-37 Modeled vs. Observed Load TP_GQ at 03298120

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	90,946	251,813	-63.88	185,163	-50.88
2008	107,159	99,747	7.43	75,550	41.84

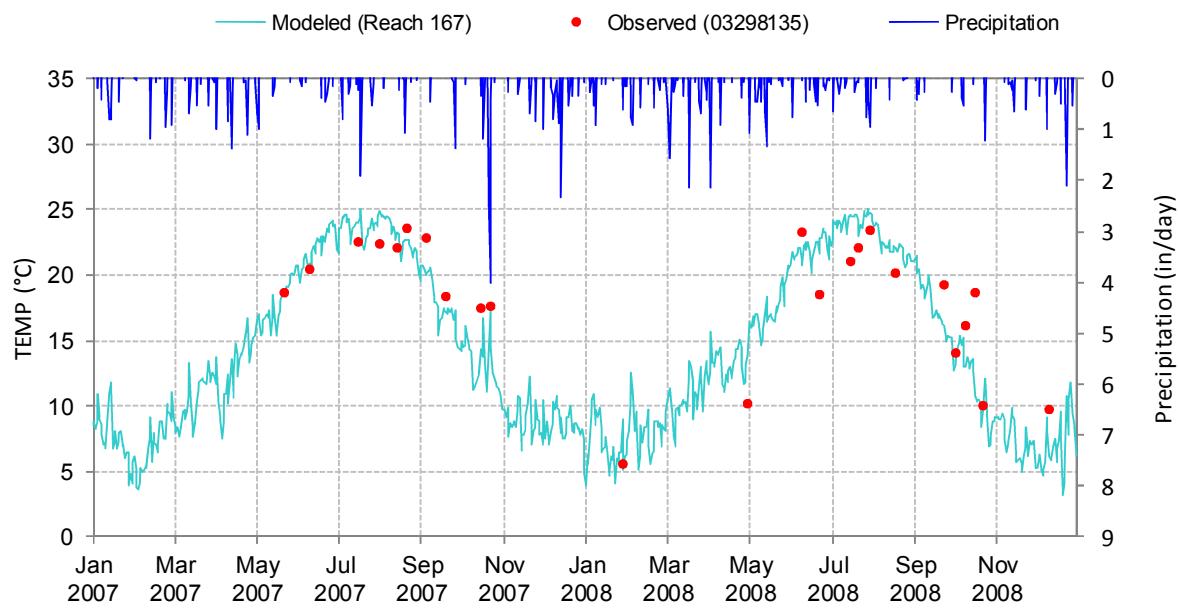
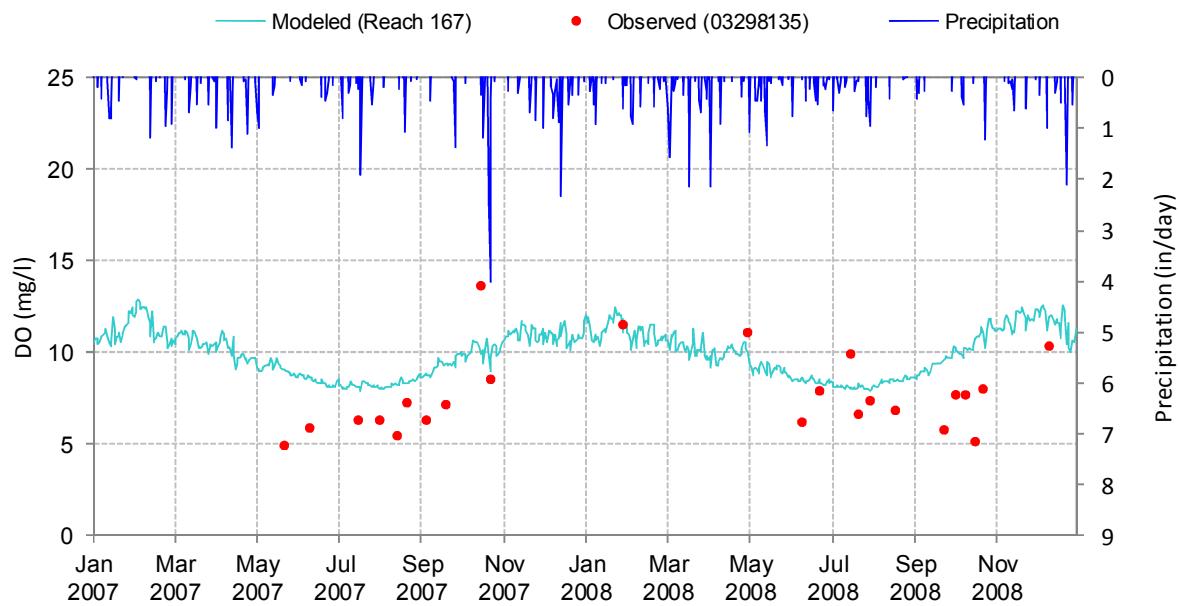
Figure B-182 Modeled vs. Observed TEMP ($^{\circ}\text{C}$) at 03298135

Figure B-183 Modeled vs. Observed DO (mg/l) at 03298135

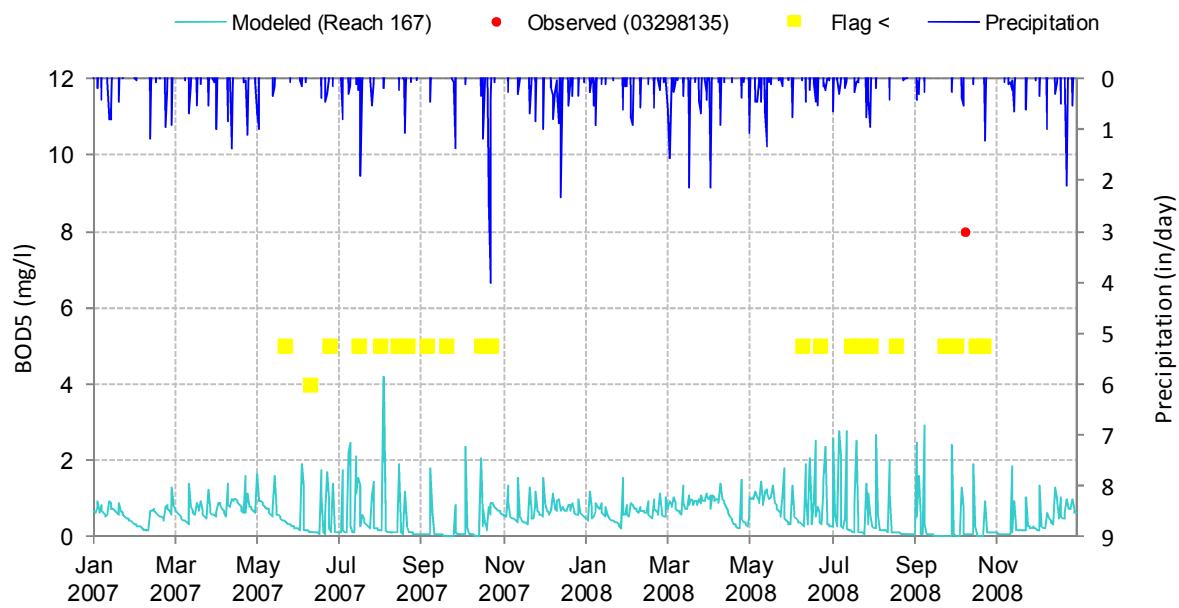


Figure B-184 Modeled vs. Observed BOD5 (mg/l) at 03298135

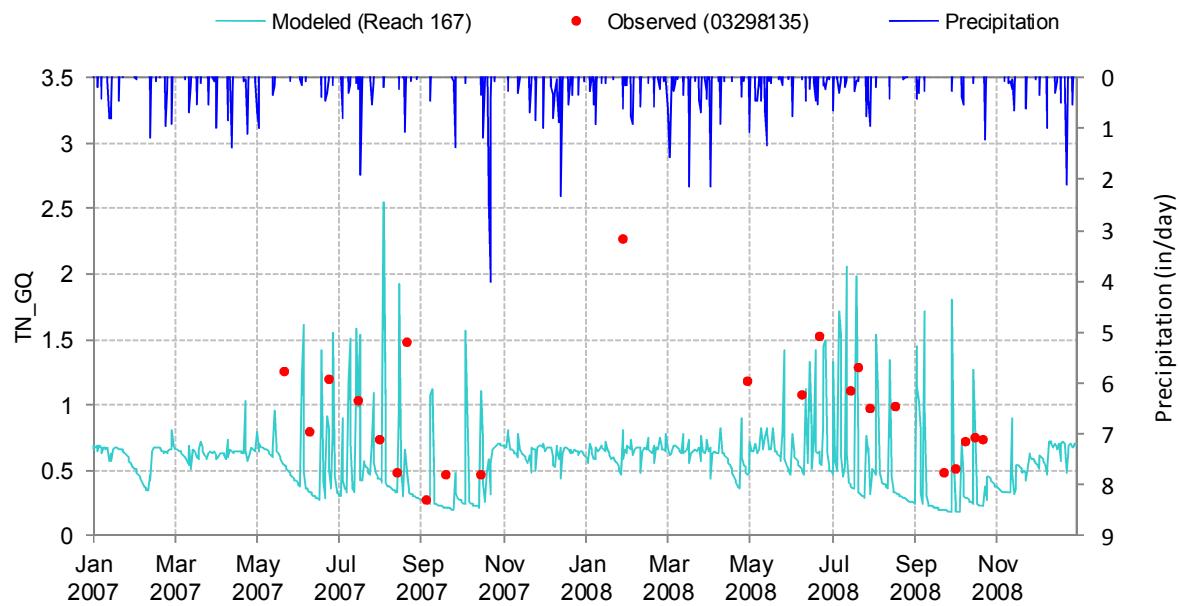


Figure B-185 Modeled vs. Observed TN_GQ at 03298135

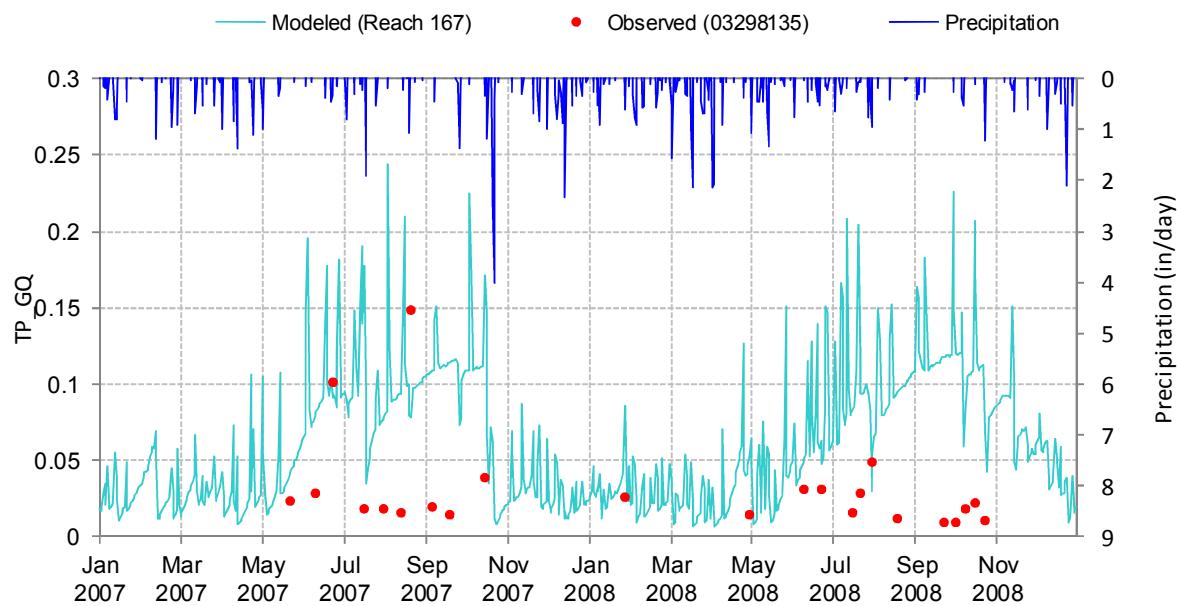


Figure B-186 Modeled vs. Observed TP_GQ at 03298135

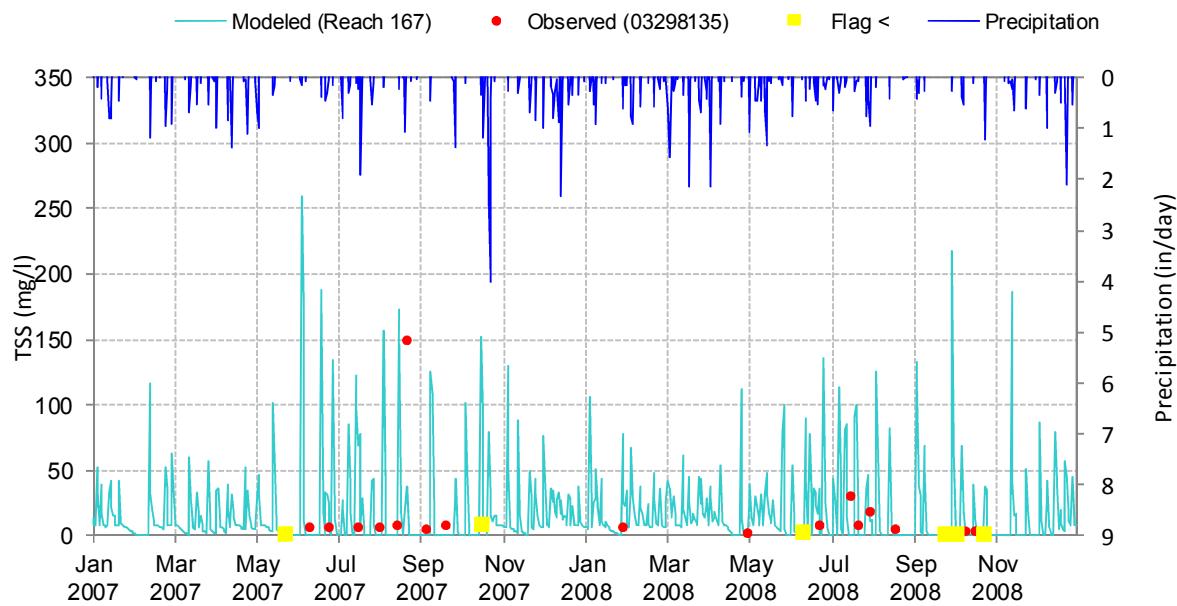


Figure B-187 Modeled vs. Observed TSS (mg/l) at 03298135

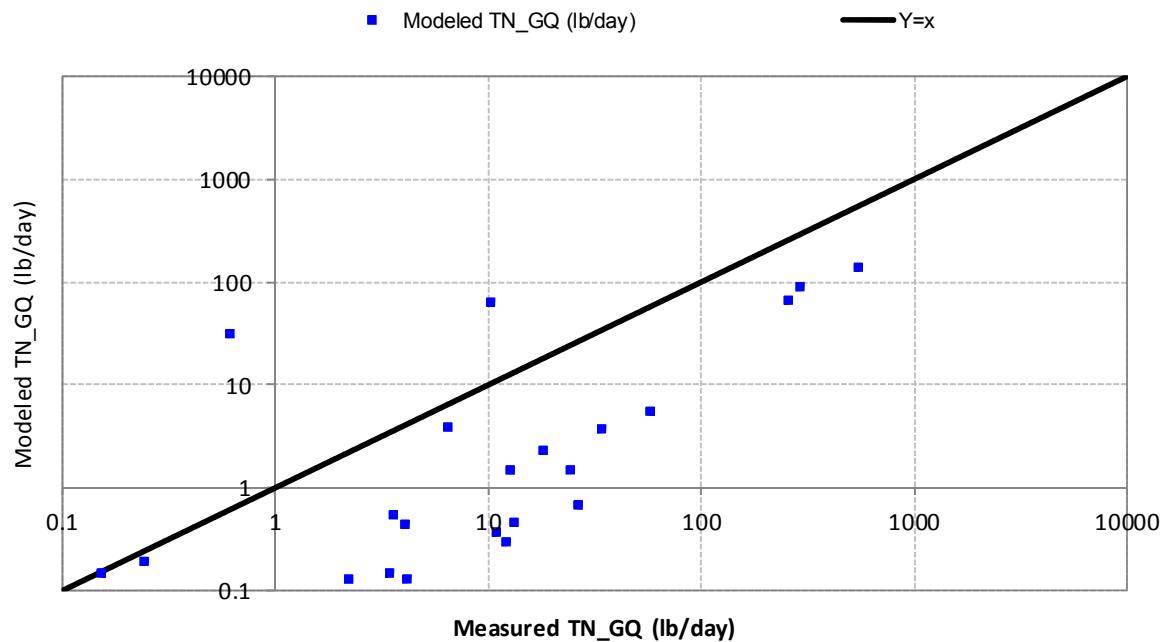


Figure B-188 Modeled vs. Observed Load TN_GQ at 03298135

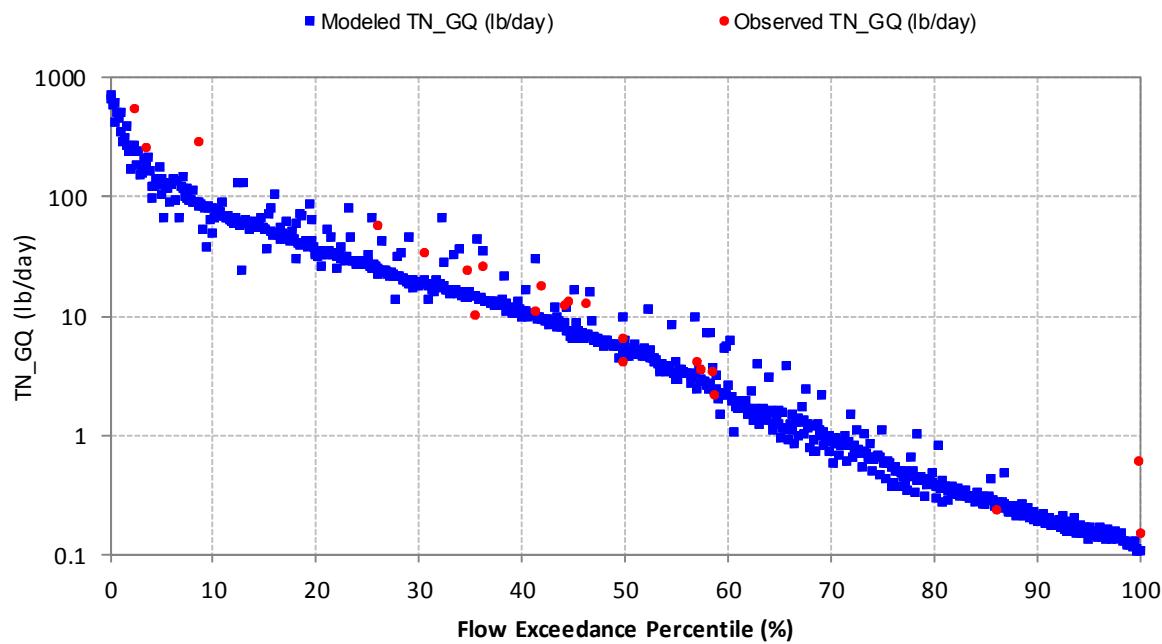


Figure B-189 Modeled vs. Observed Load TN_GQ at 03298135

Table B-38 Modeled vs. Observed Load TN_GQ at 03298135

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	10,651	18,885	23,263	-43.6	23,263	-54.22
2008	12,084	40,821	36,041	-70.4	36,041	-66.47

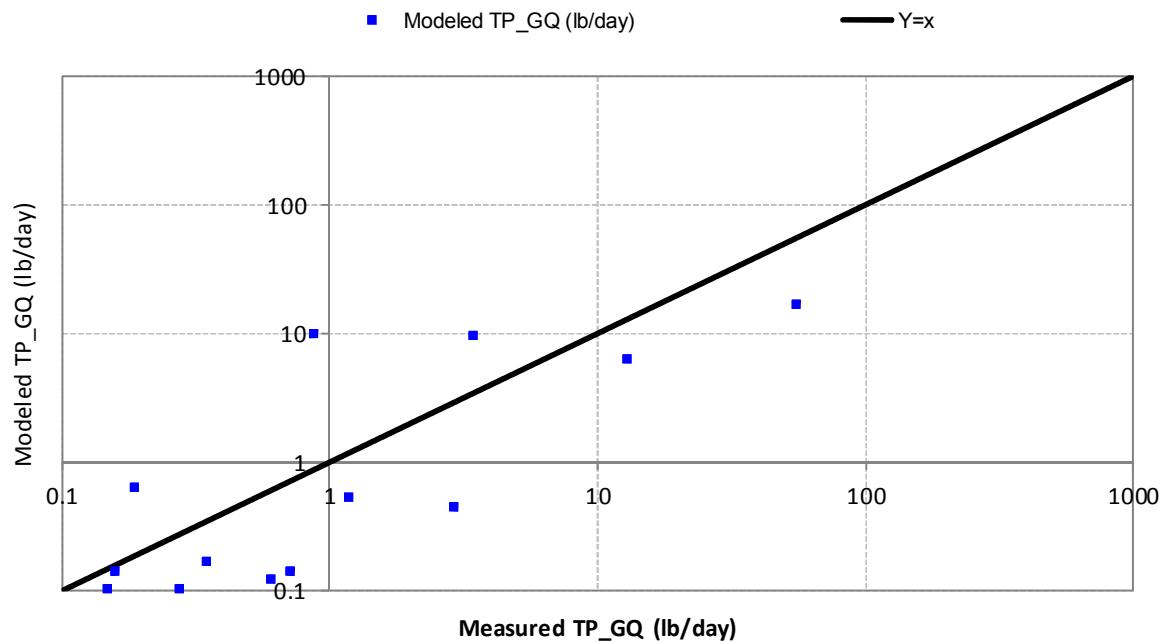


Figure B-190 Modeled vs. Observed Load TP_GQ at 03298135

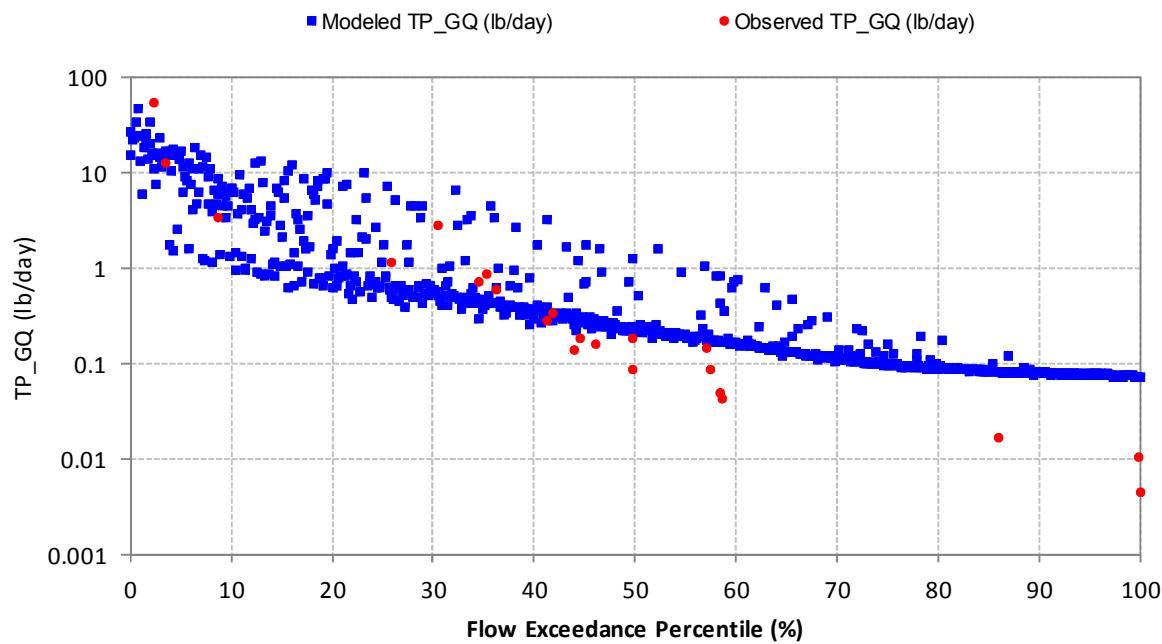


Figure B-191 Modeled vs. Observed Load TP_GQ at 03298135

Table B-39 Modeled vs. Observed Load TP_GQ at 03298135

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	733	738	-0.65	709	3.4
2008	727	598	21.49	552	31.71

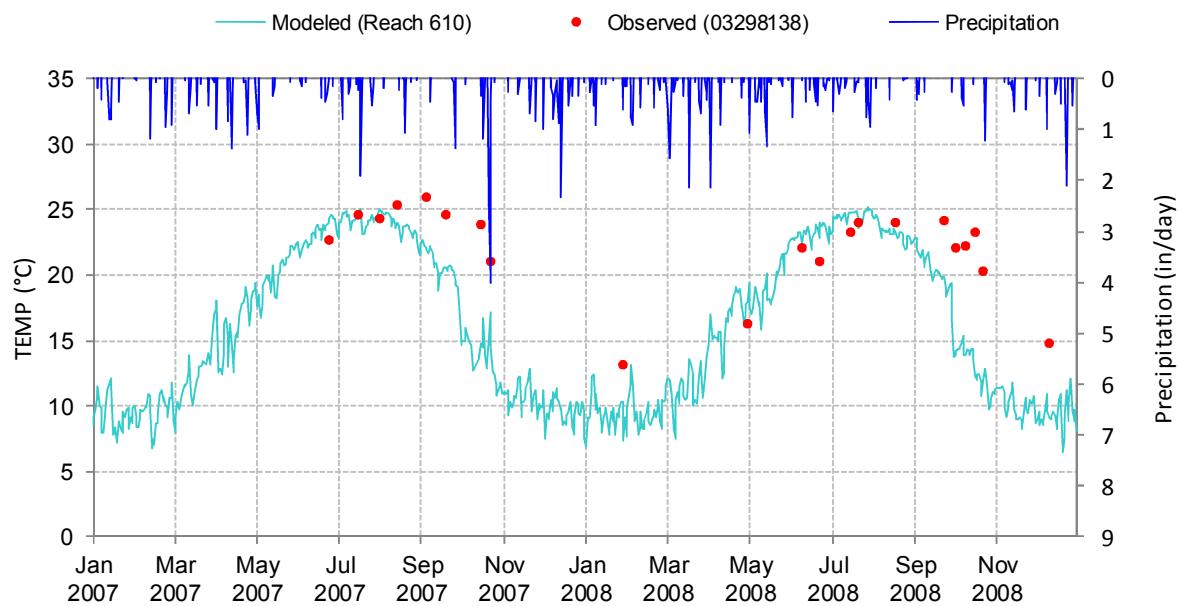


Figure B-192 Modeled vs. Observed TEMP (°C) at 03298138

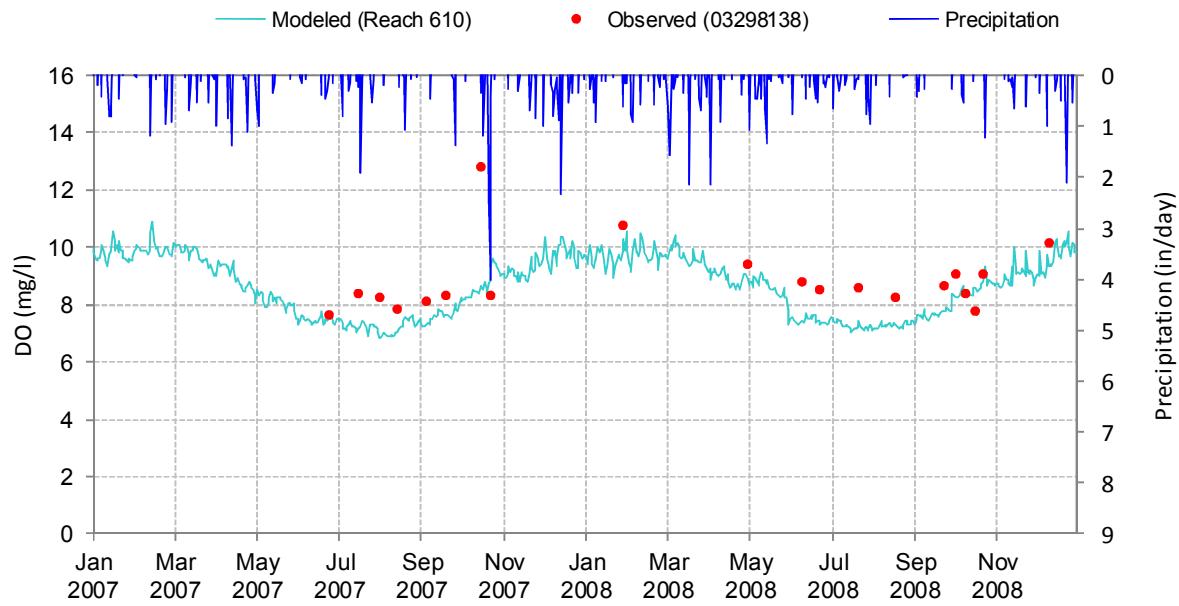


Figure B-193 Modeled vs. Observed DO (mg/l) at 03298138

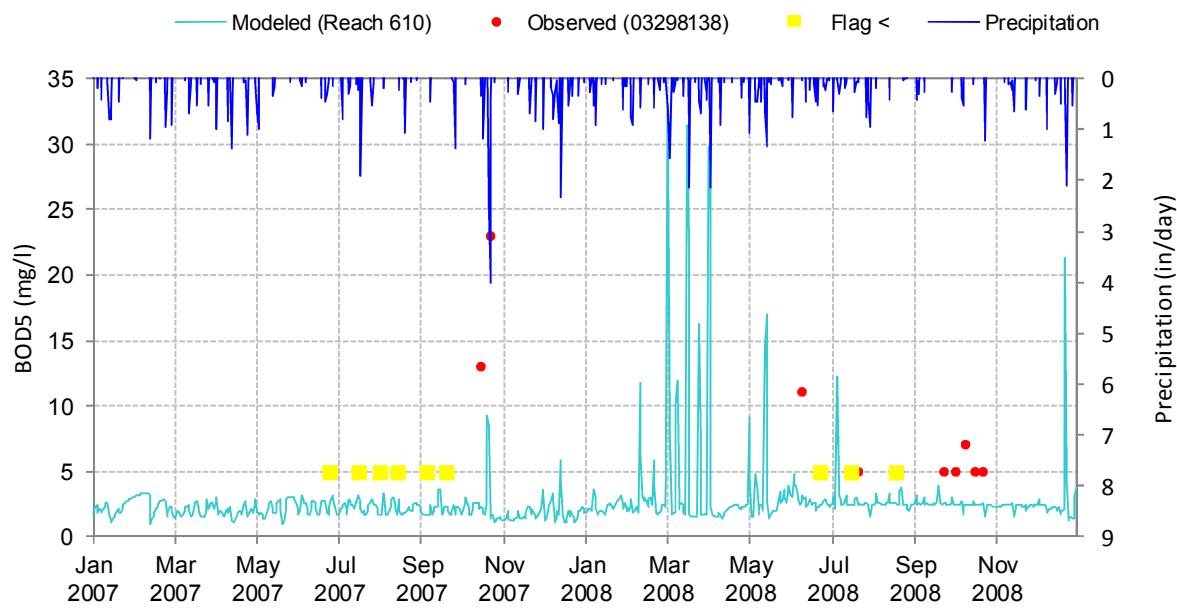


Figure B-194 Modeled vs. Observed BOD5 (mg/l) at 03298138

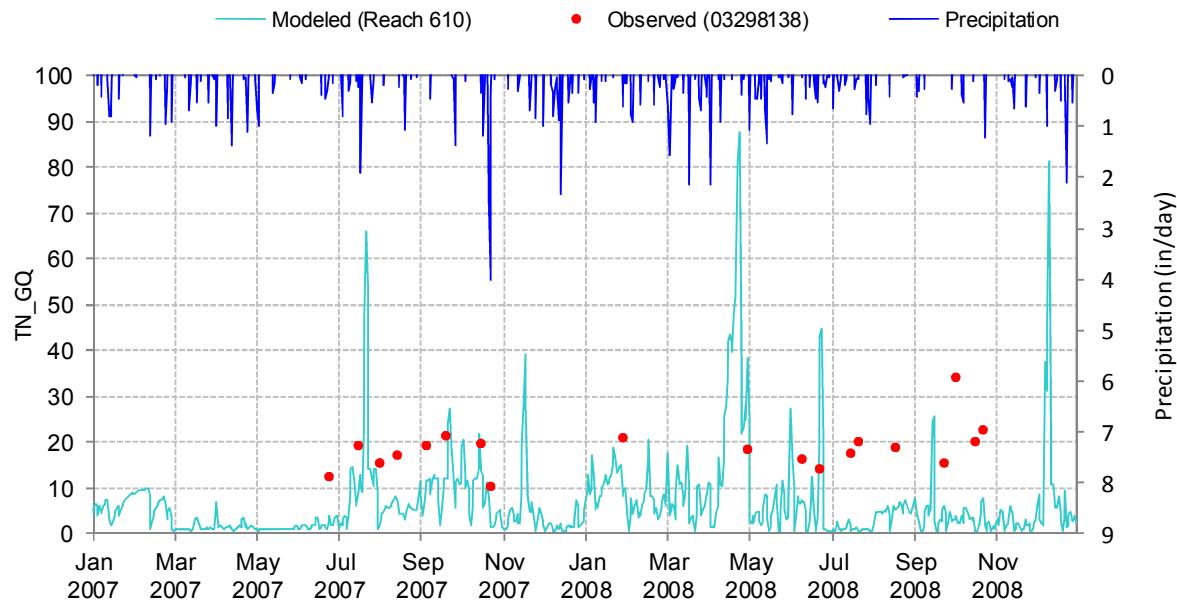


Figure B-195 Modeled vs. Observed TN_GQ at 03298138

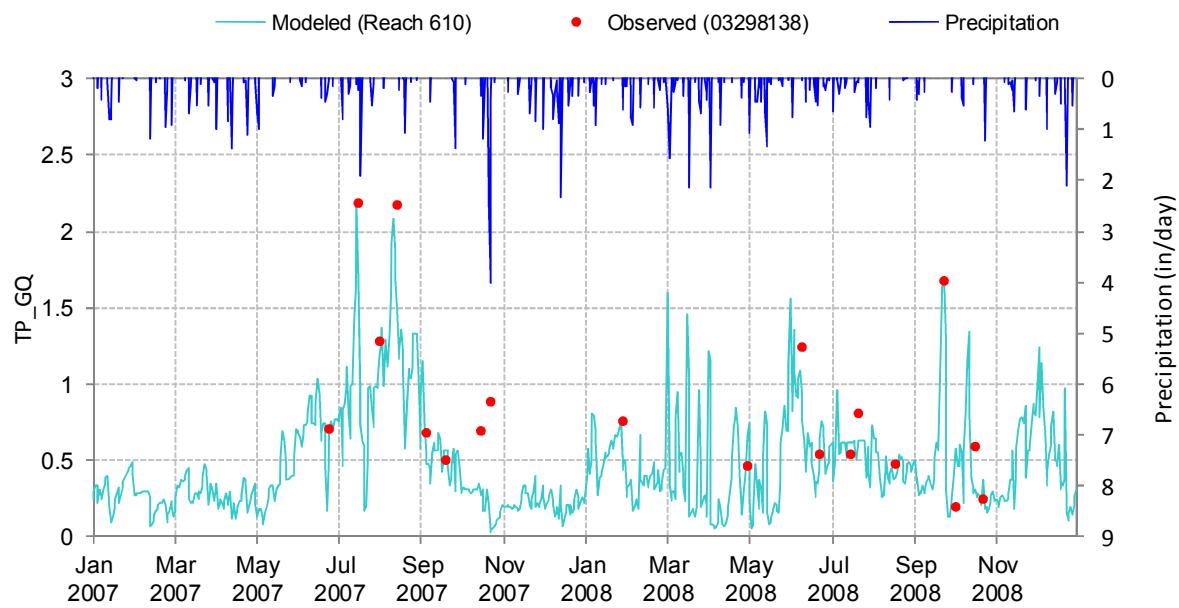


Figure B-196 Modeled vs. Observed TP_GQ at 03298138

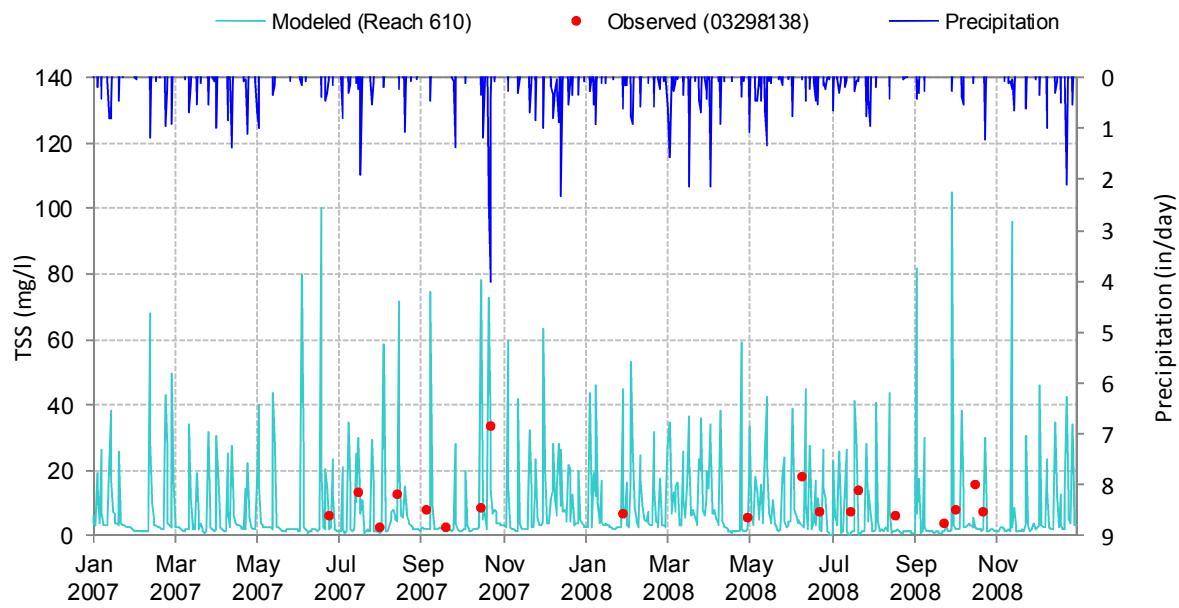


Figure B-197 Modeled vs. Observed TSS (mg/l) at 03298138

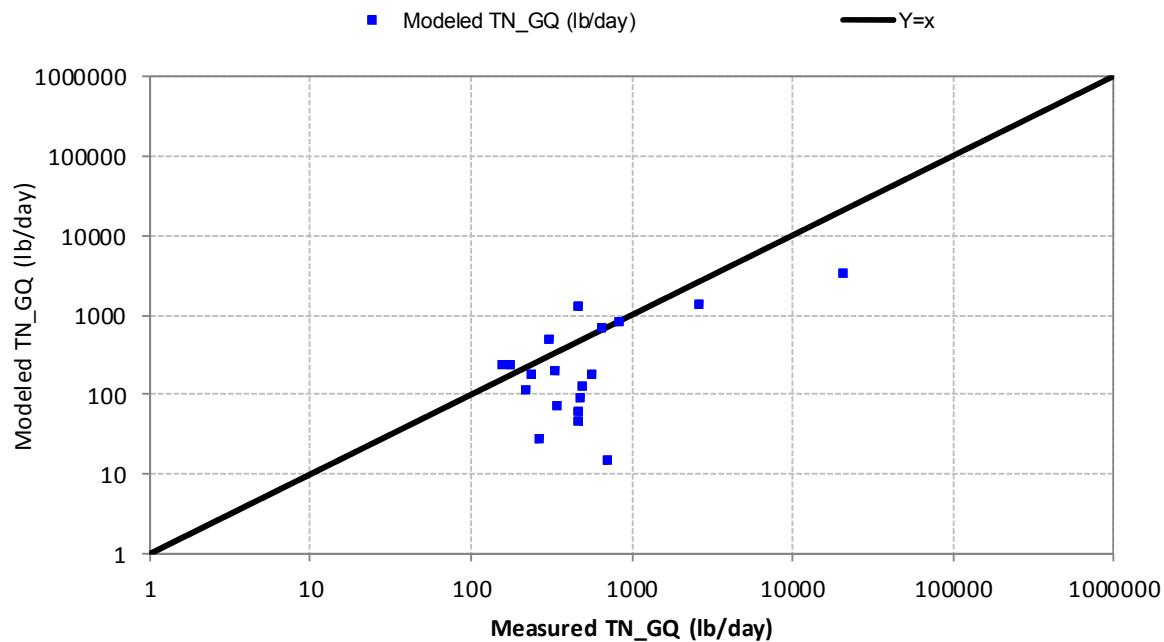


Figure B-198 Modeled vs. Observed Load TN_GQ at 03298138

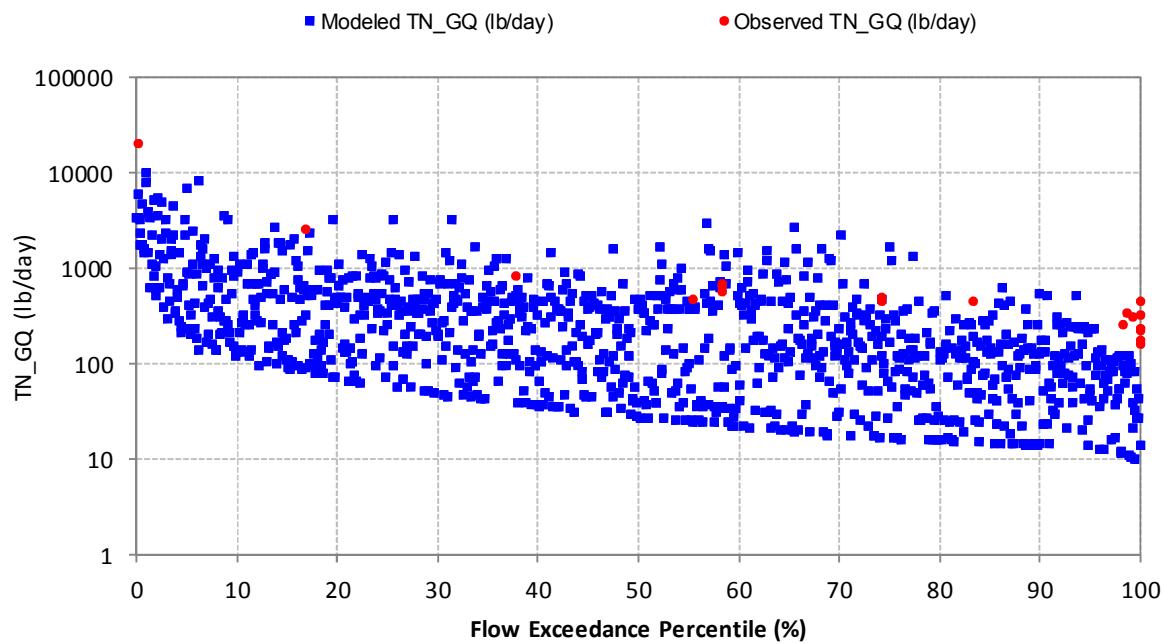


Figure B-199 Modeled vs. Observed Load TN_GQ at 03298138

Table B-40 Modeled vs. Observed Load TN_GQ at 03298138

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	118,051	384,834	-69.32	418,960	-71.82	
2008	225,882	718,912	-68.58	713,548	-68.34	

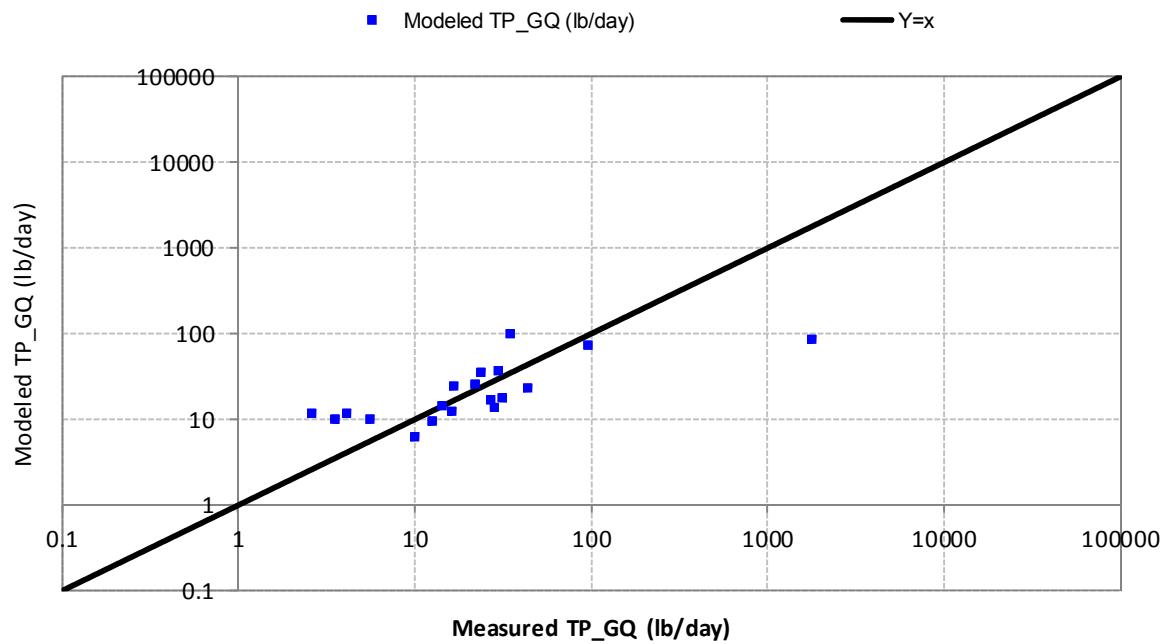


Figure B-200 Modeled vs. Observed Load TP_GQ at 03298138

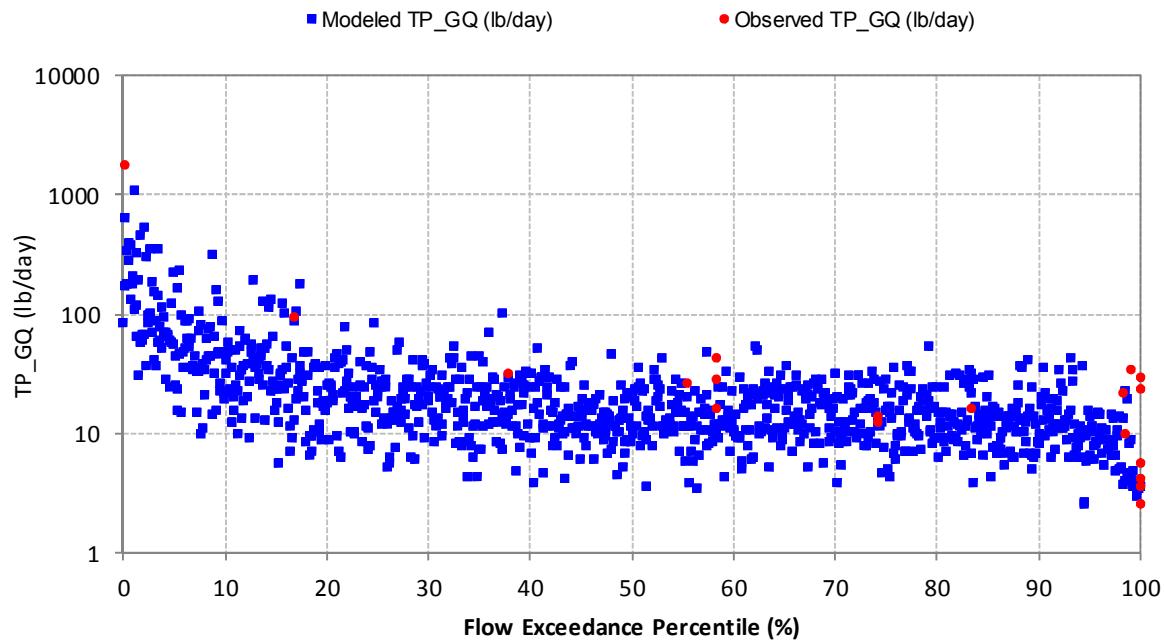


Figure B-201 Modeled vs. Observed Load TP_GQ at 03298138

Table B-41 Modeled vs. Observed Load TP_GQ at 03298138

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	9,069	25,637	-64.63	25,384	-64.27
2008	13,612	24,456	-44.34	23,304	-41.59

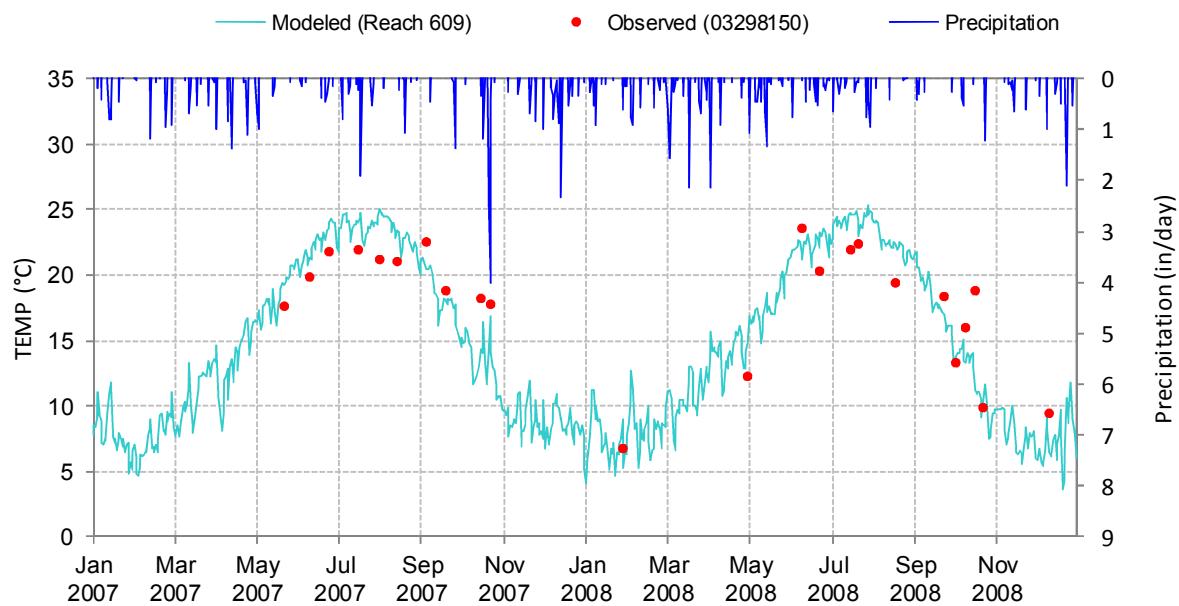


Figure B-202 Modeled vs. Observed TEMP (°C) at 03298150

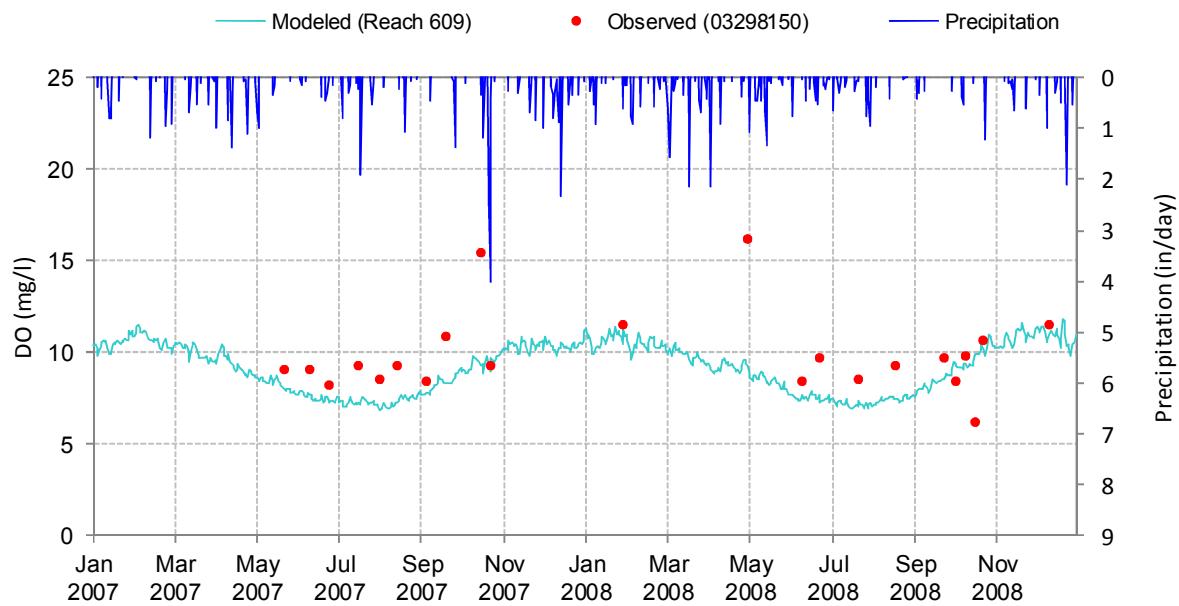


Figure B-203 Modeled vs. Observed DO (mg/l) at 03298150

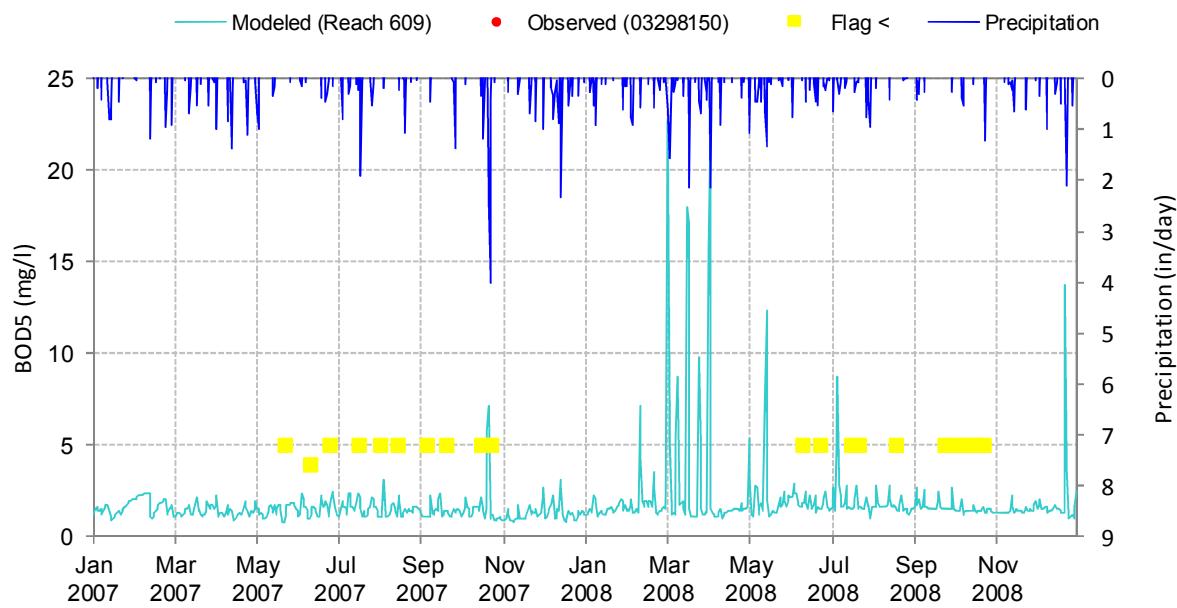


Figure B-204 Modeled vs. Observed BOD5 (mg/l) at 03298150

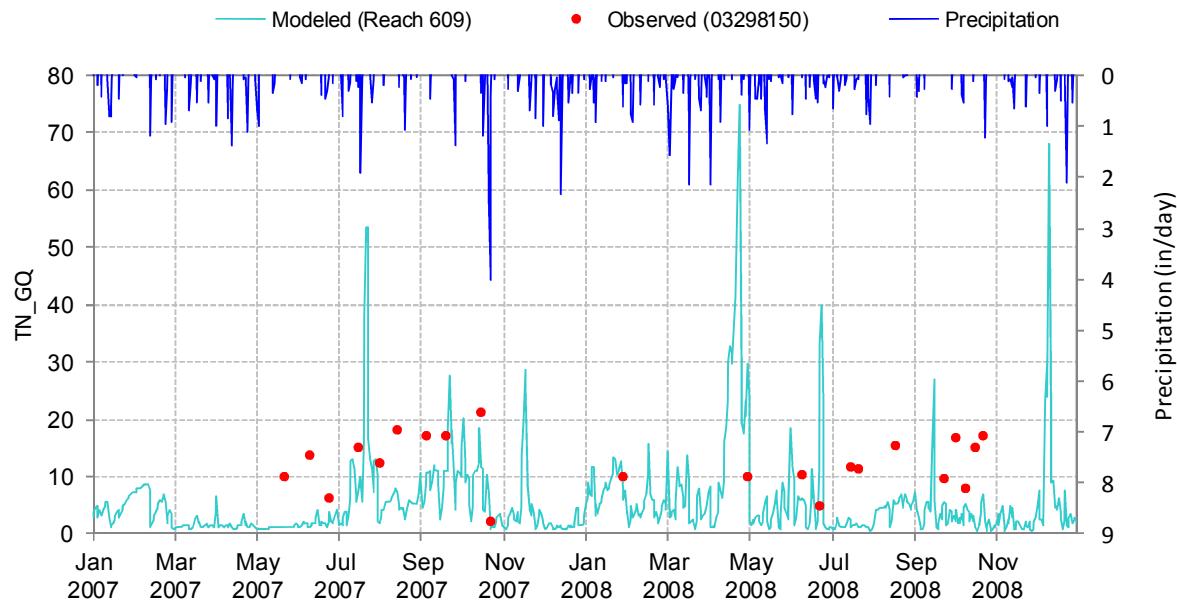


Figure B-205 Modeled vs. Observed TN_GQ at 03298150

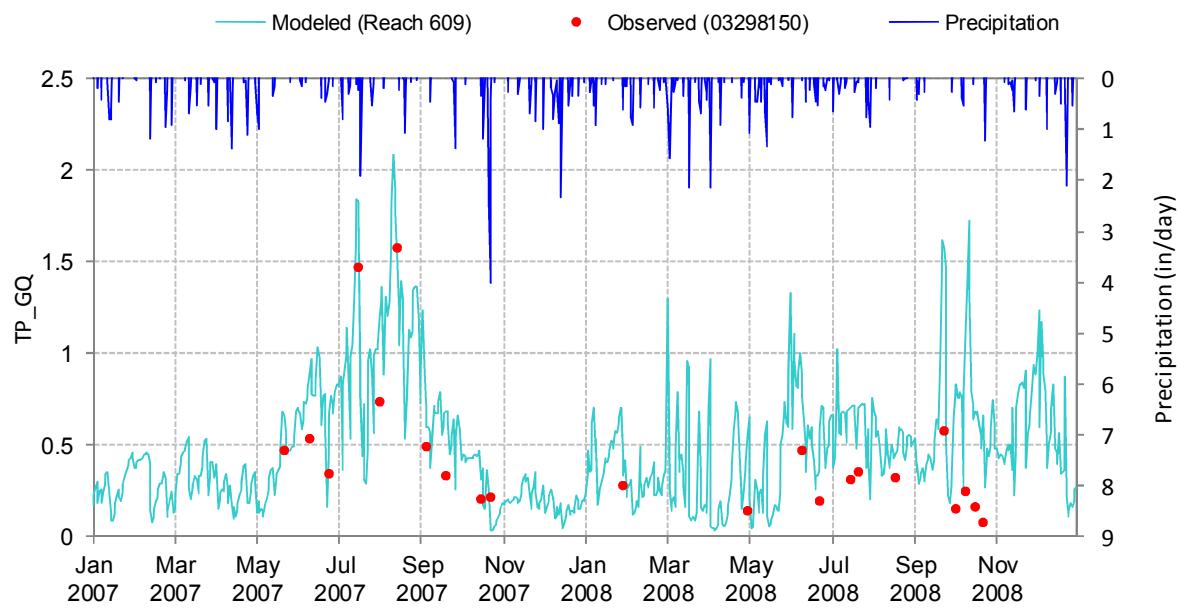


Figure B-206 Modeled vs. Observed TP_GQ at 03298150

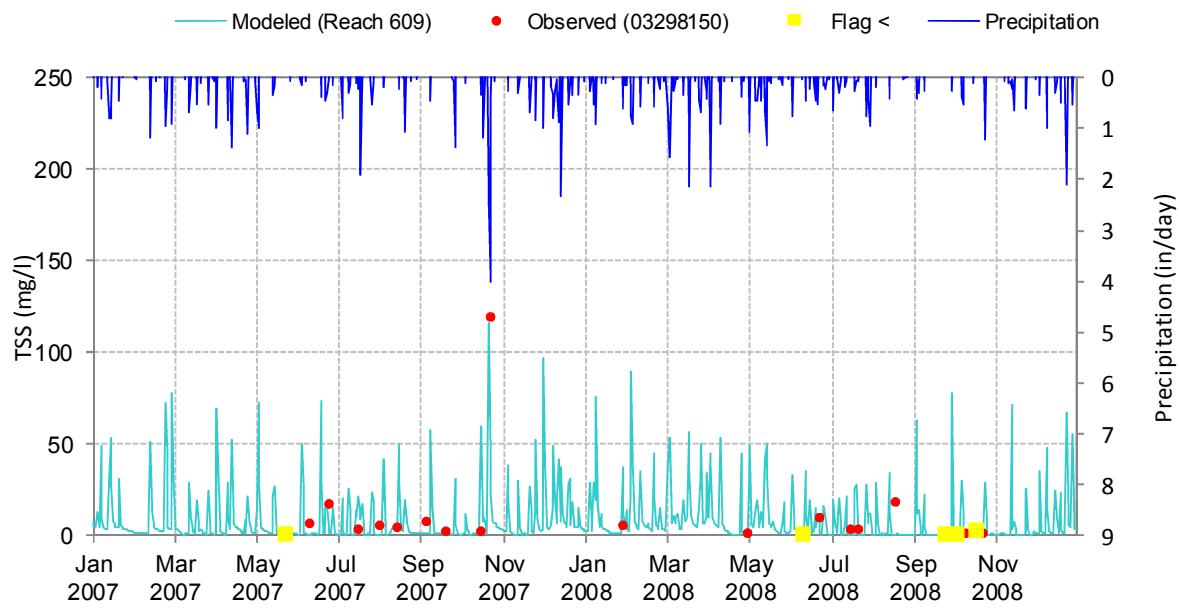


Figure B-207 Modeled vs. Observed TSS (mg/l) at 03298150

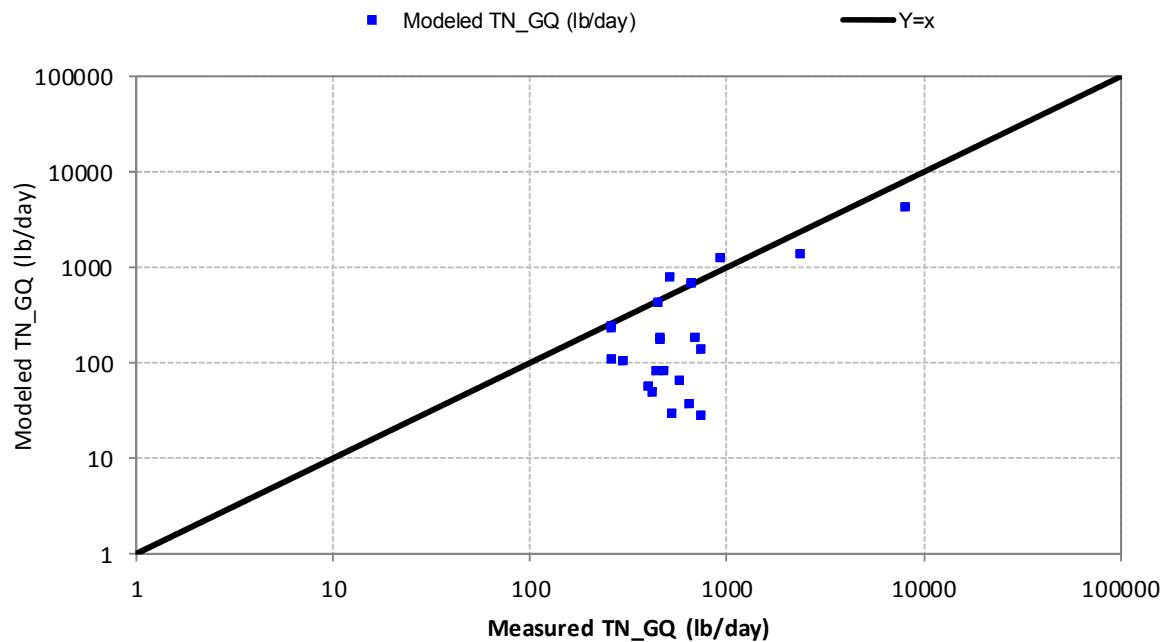


Figure B-208 Modeled vs. Observed Load TN_GQ at 03298150

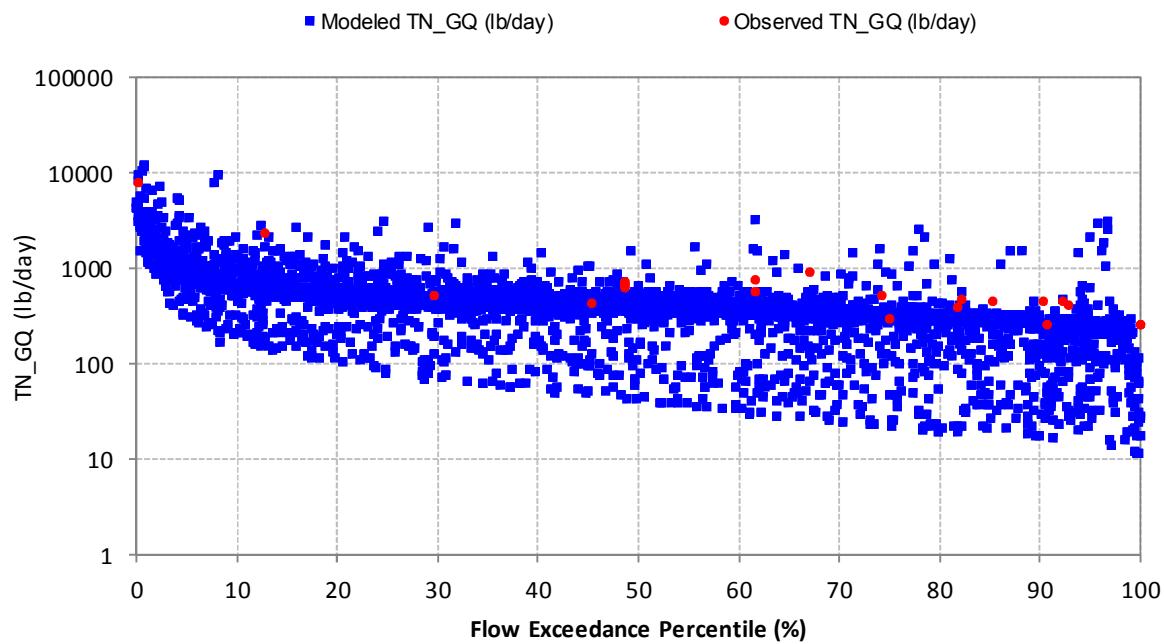


Figure B-209 Modeled vs. Observed Load TN_GQ at 03298150

Table B-42 Modeled vs. Observed Load TN_GQ at 03298150

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	135,438	454,824	495,609	-70.22	495,609	-72.67
2008	242,929	695,282	734,674	-65.06	734,674	-66.93

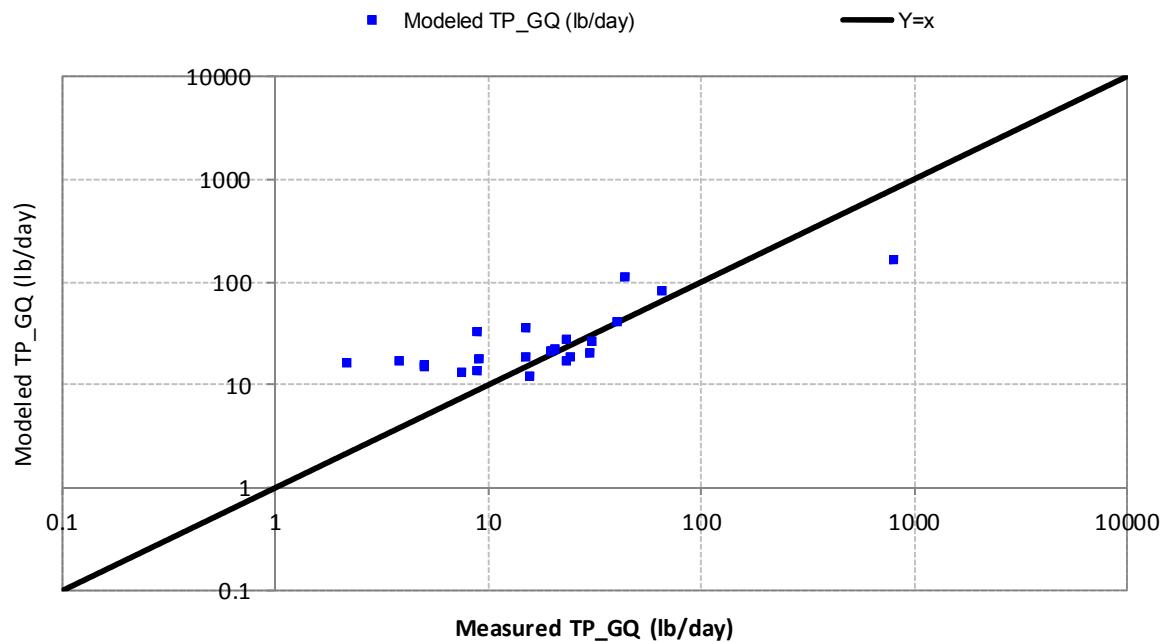


Figure B-210 Modeled vs. Observed Load TP_GQ at 03298150

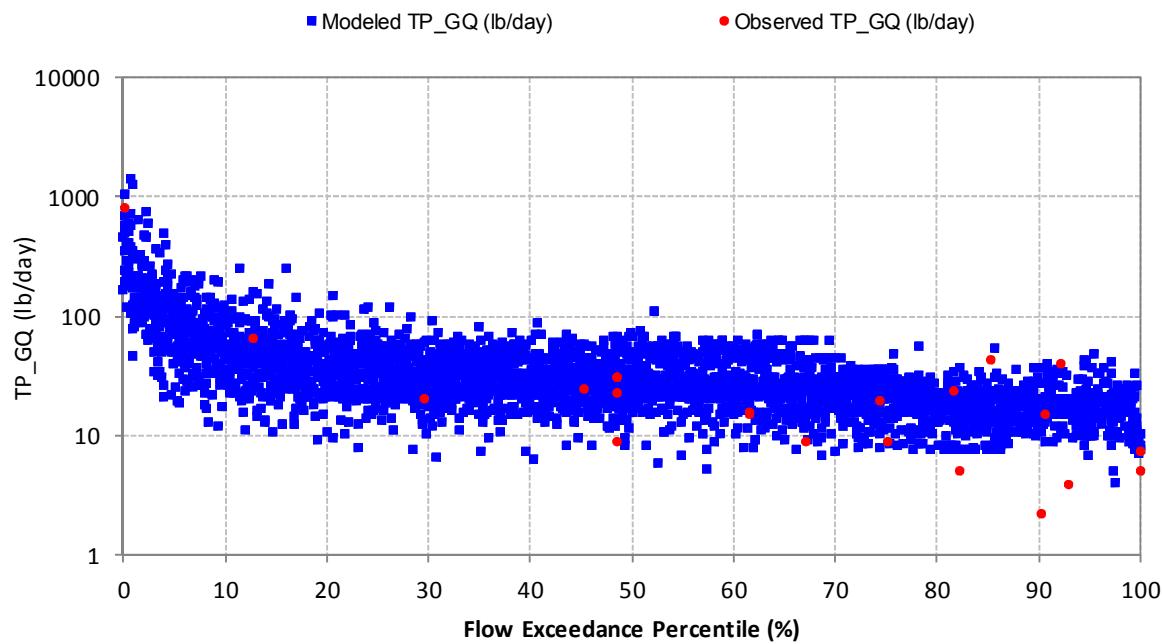


Figure B-211 Modeled vs. Observed Load TP_GQ at 03298150

Table B-43 Modeled vs. Observed Load TP_GQ at 03298150

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	12,142	24,041	-49.49	24,514	-50.47
2008	16,655	16,285	2.27	17,612	-5.43

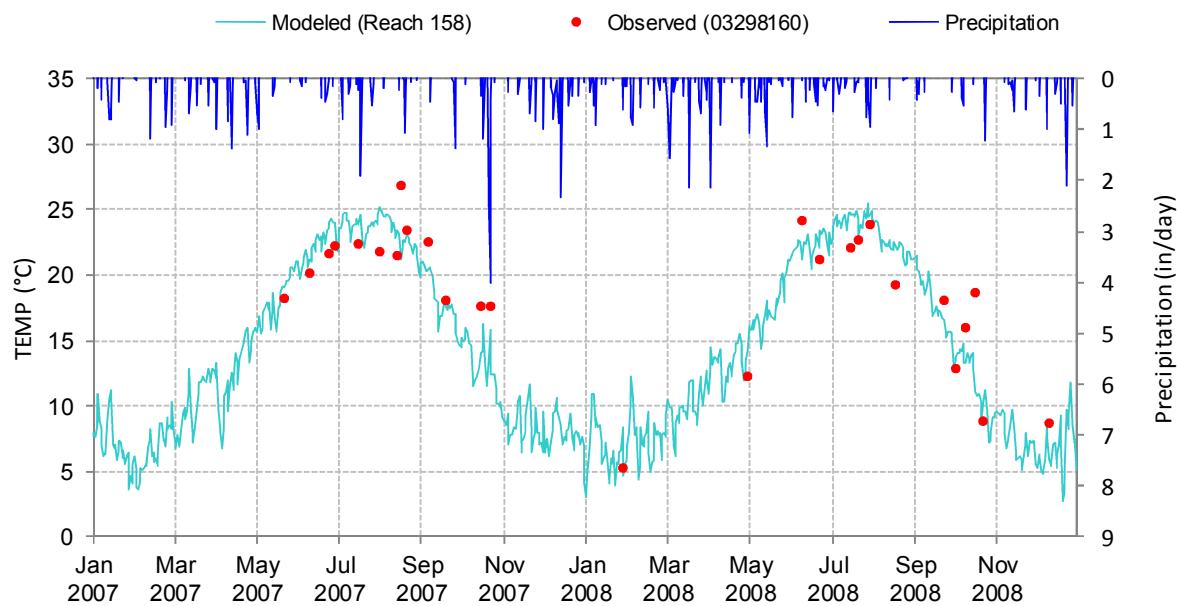


Figure B-212 Modeled vs. Observed TEMP (°C) at 03298160

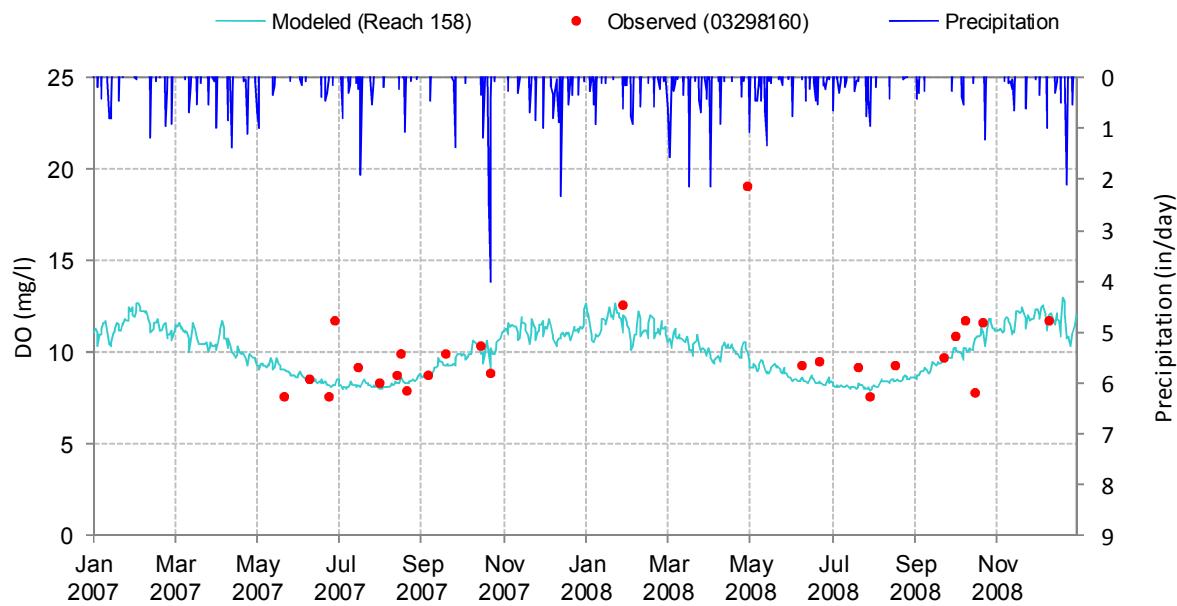


Figure B-213 Modeled vs. Observed DO (mg/l) at 03298160

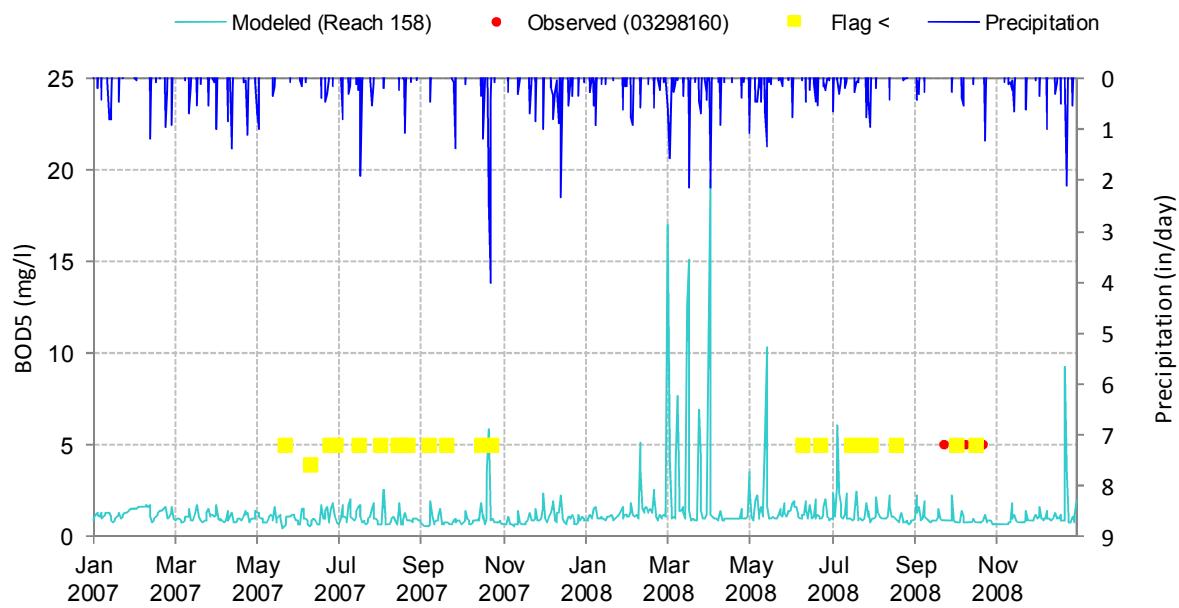


Figure B-214 Modeled vs. Observed BOD5 (mg/l) at 03298160

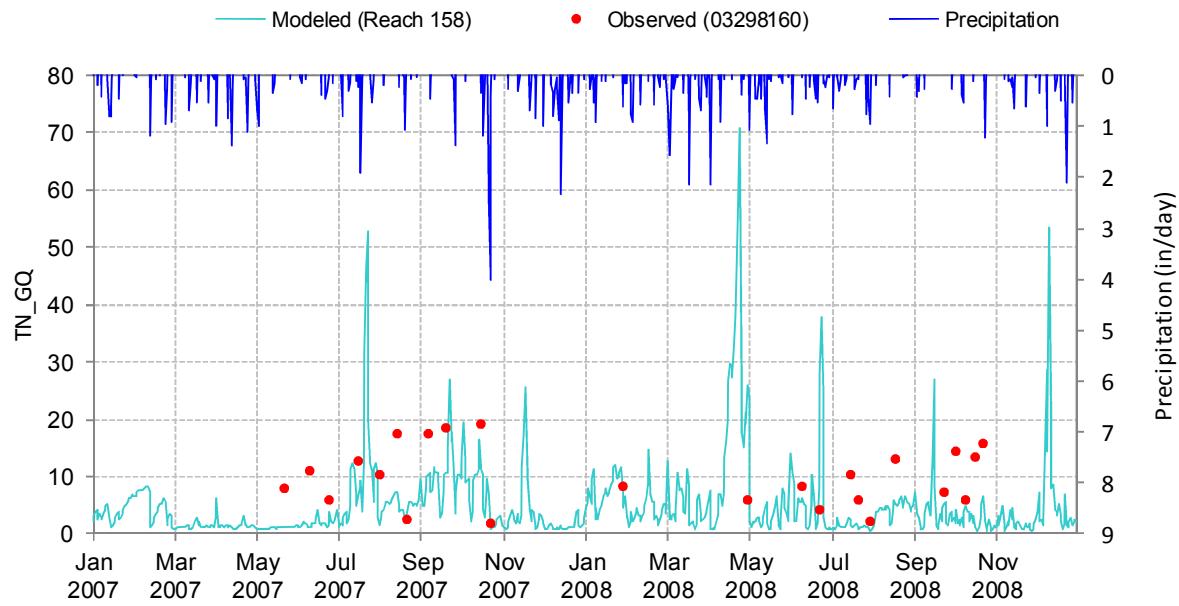


Figure B-215 Modeled vs. Observed TN_GQ at 03298160

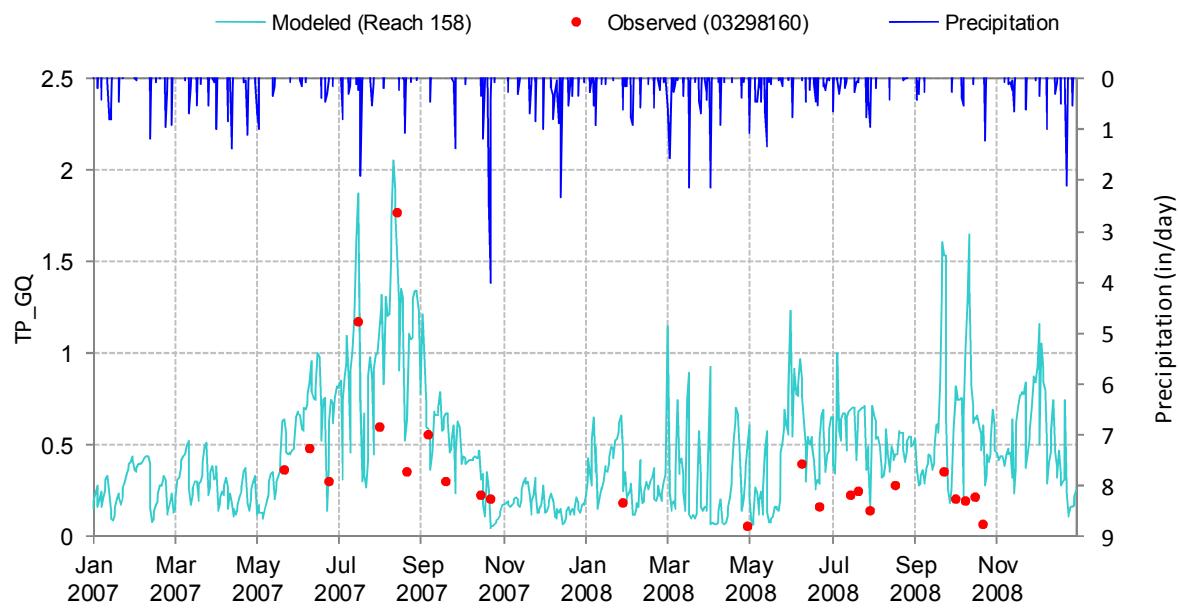


Figure B-216 Modeled vs. Observed TP_GQ at 03298160

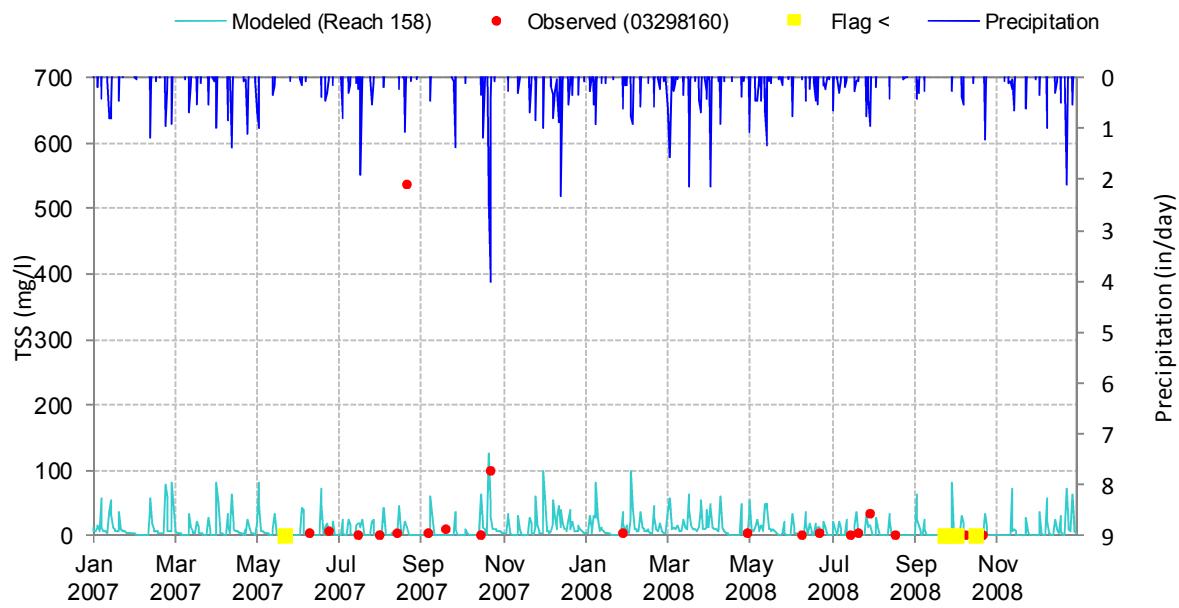


Figure B-217 Modeled vs. Observed TSS (mg/l) at 03298160

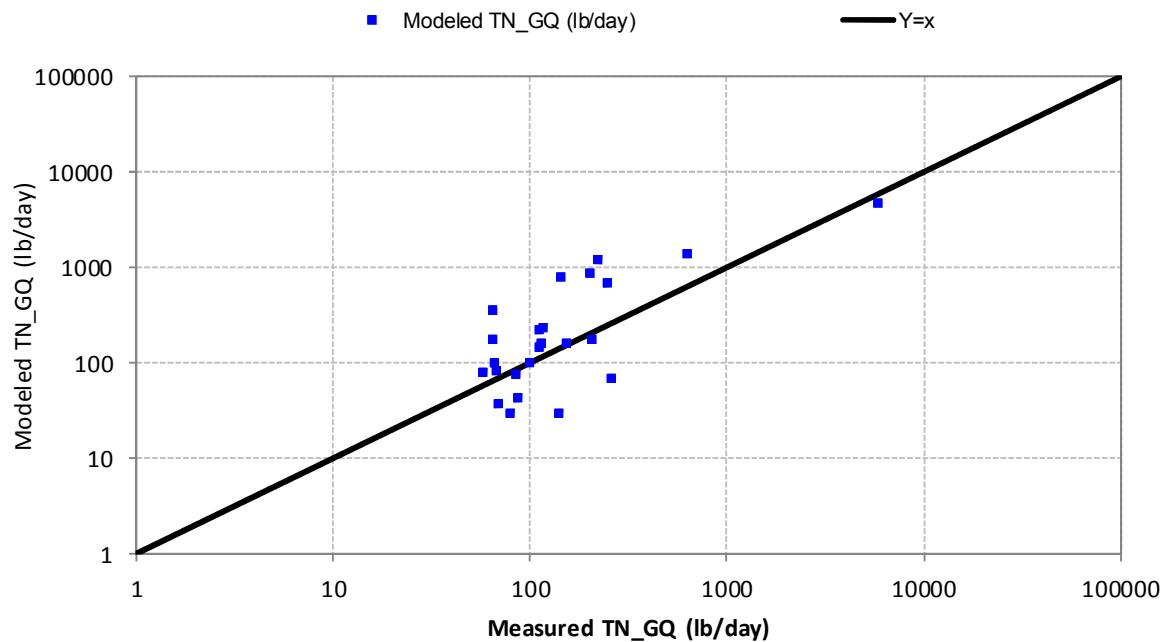


Figure B-218 Modeled vs. Observed Load TN_GQ at 03298160

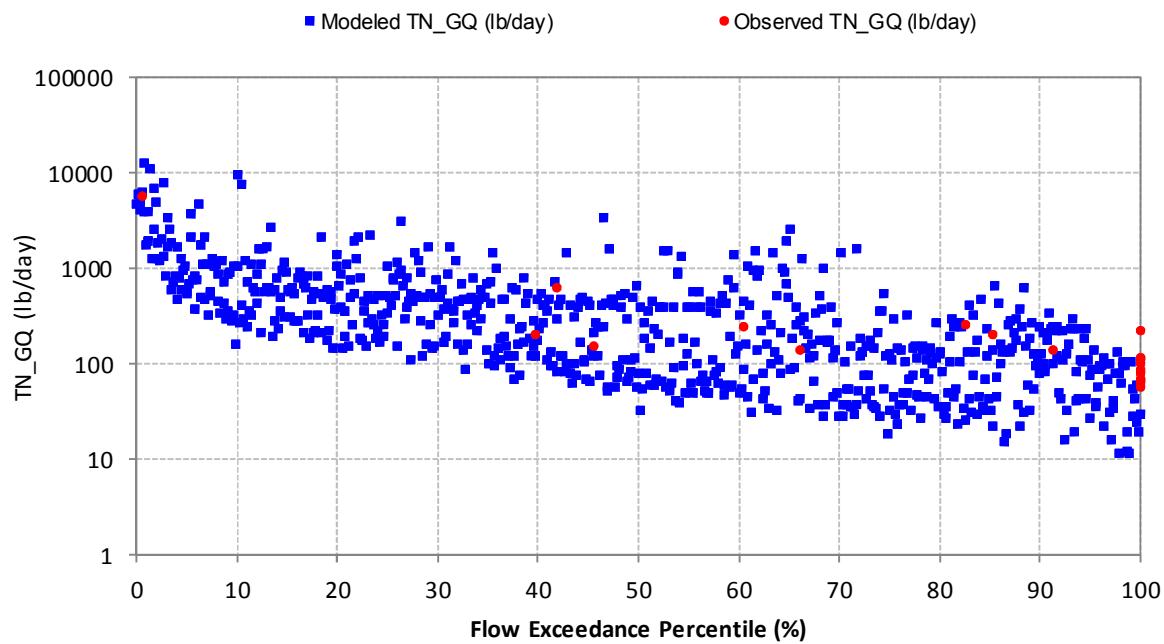


Figure B-219 Modeled vs. Observed Load TN_GQ at 03298160

Table B-44 Modeled vs. Observed Load TN_GQ at 03298160

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	140,754	269,829	-47.84	311,857	-54.87	
2008	246,448	471,588	-47.74	462,274	-46.69	

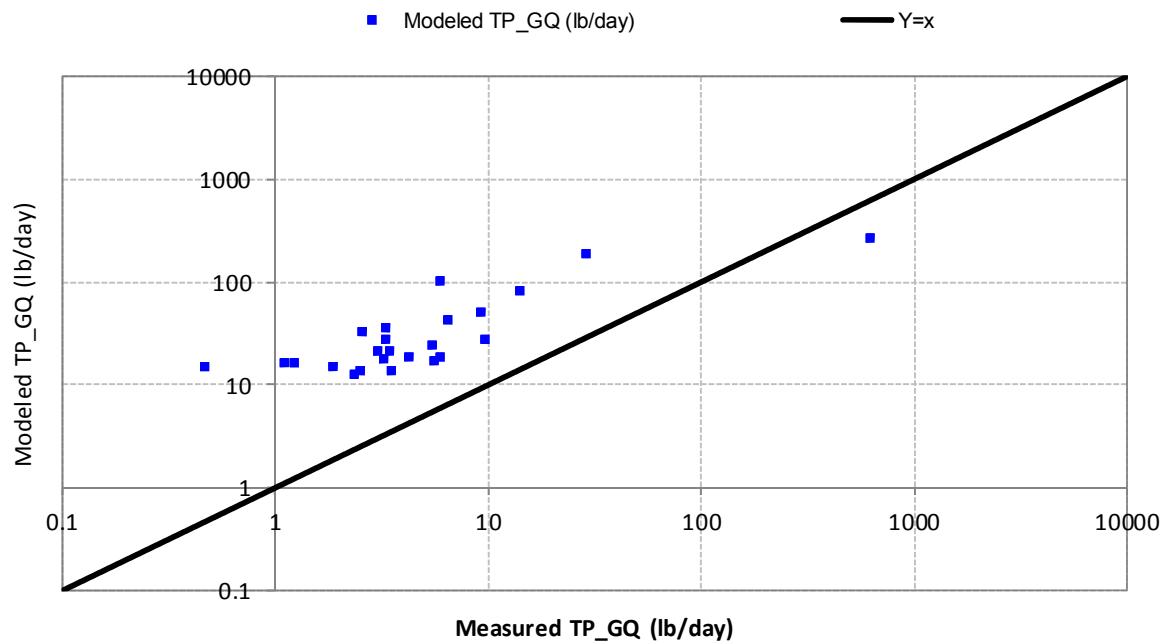


Figure B-220 Modeled vs. Observed Load TP_GQ at 03298160

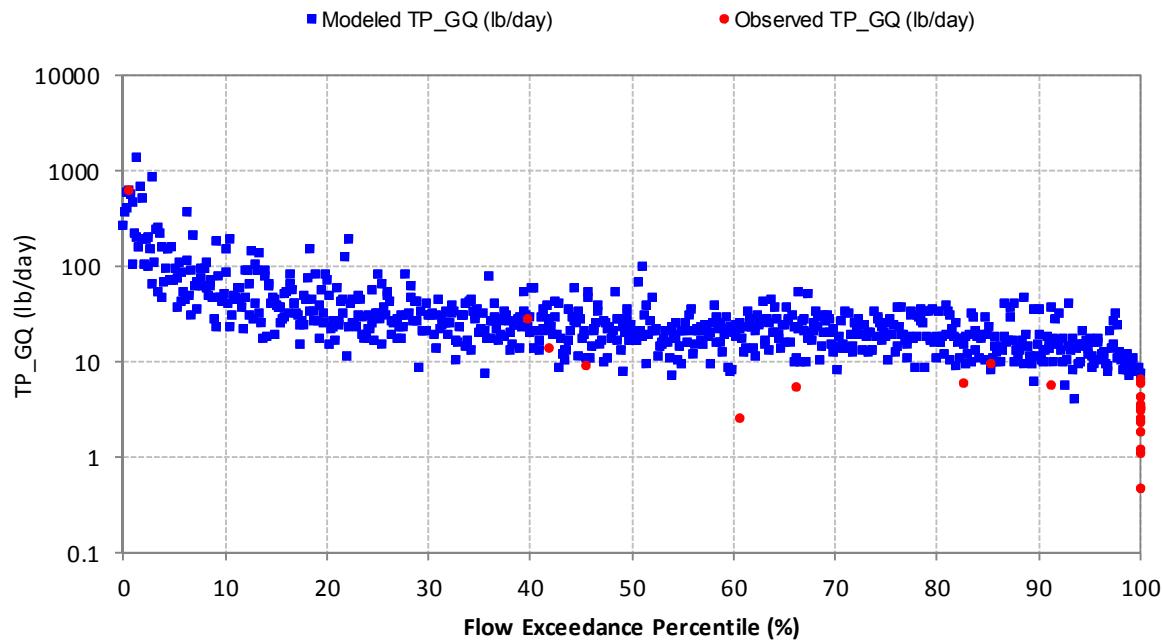


Figure B-221 Modeled vs. Observed Load TP_GQ at 03298160

Table B-45 Modeled vs. Observed Load TP_GQ at 03298160

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	13,142	14,298	-8.09	14,374	-8.57
2008	17,920	10,061	78.11	9,899	81.02

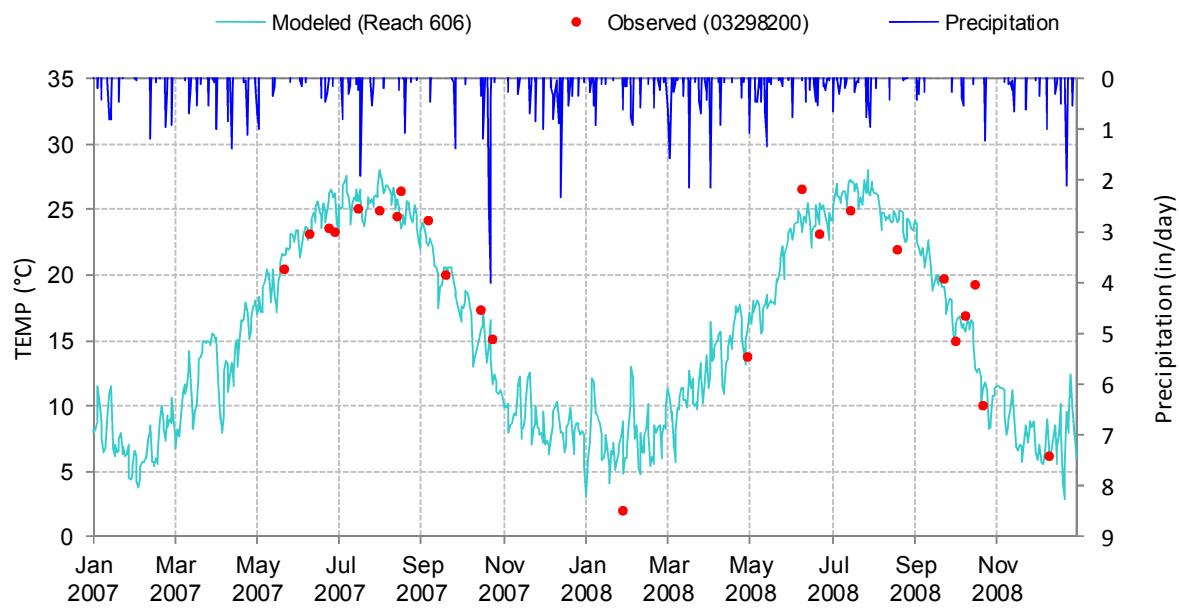


Figure B-222 Modeled vs. Observed TEMP (°C) at 03298200

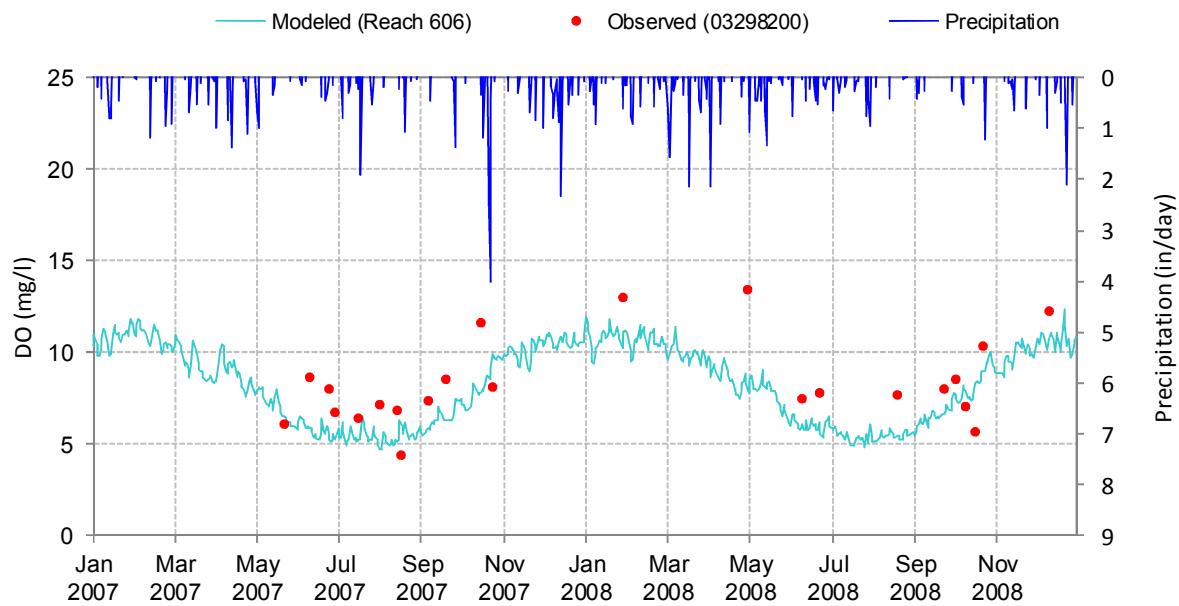


Figure B-223 Modeled vs. Observed DO (mg/l) at 03298200

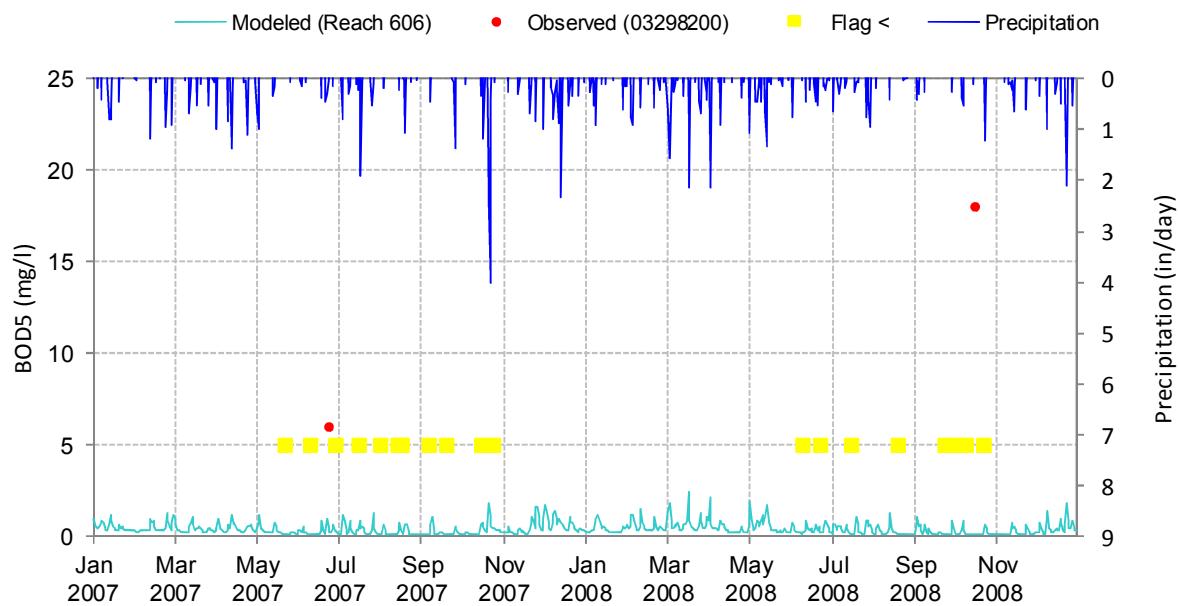


Figure B-224 Modeled vs. Observed BOD5 (mg/l) at 03298200

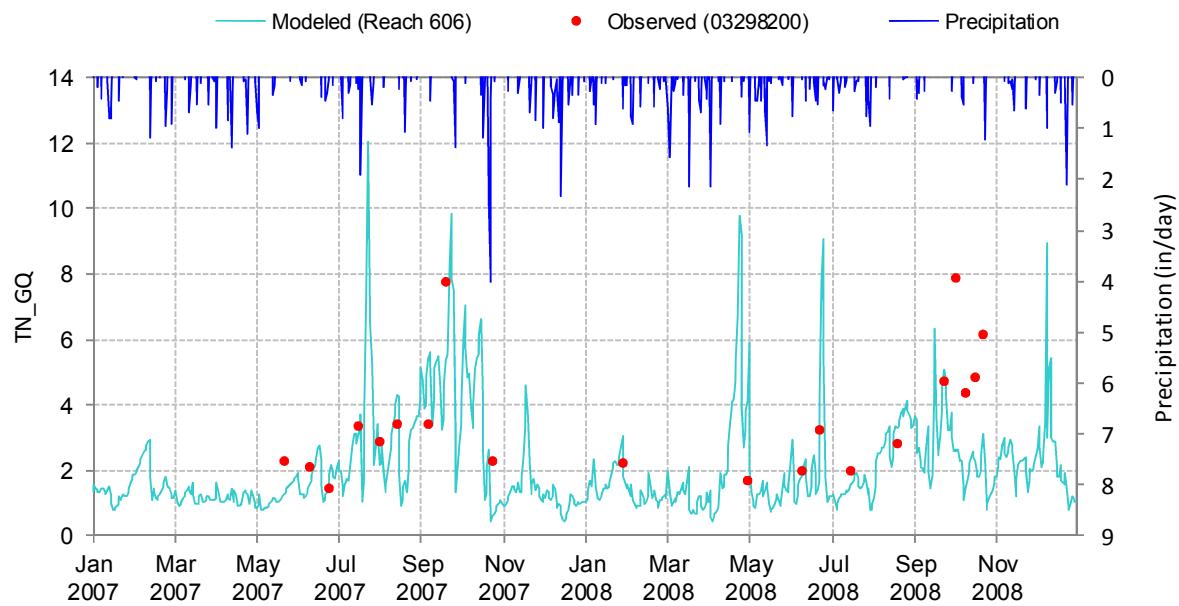


Figure B-225 Modeled vs. Observed TN_GQ at 03298200

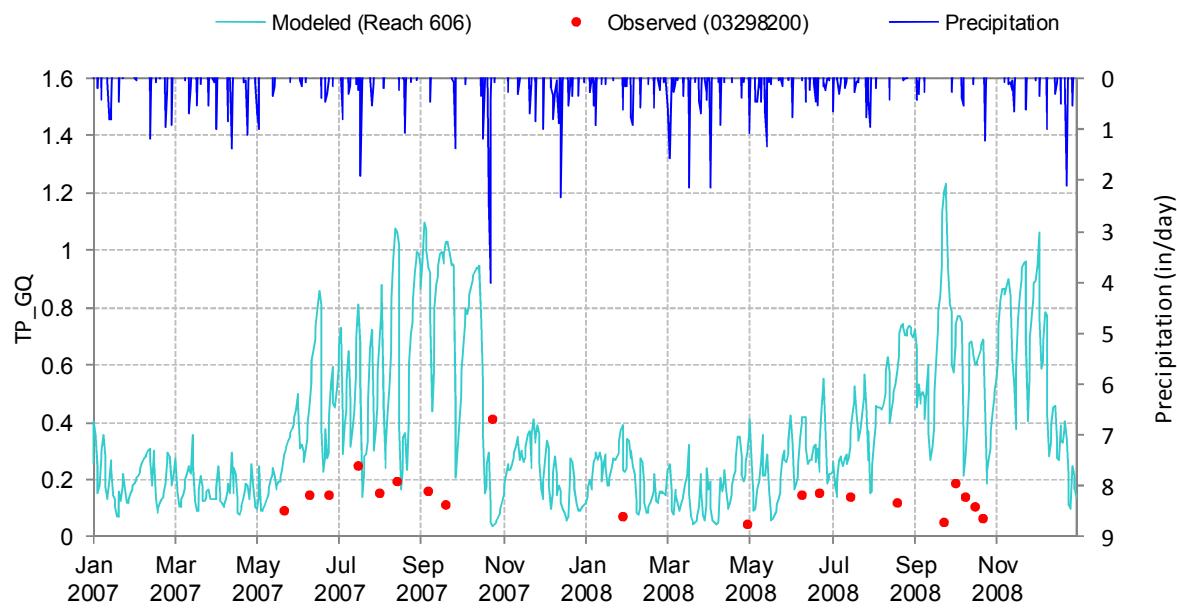


Figure B-226 Modeled vs. Observed TP_GQ at 03298200

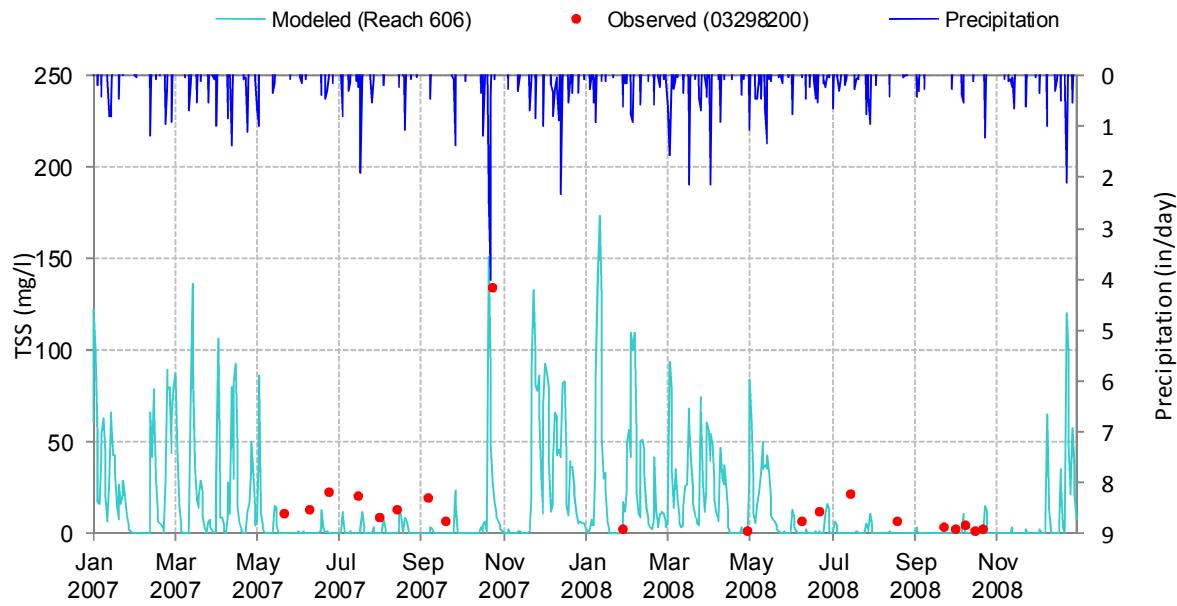


Figure B-227 Modeled vs. Observed TSS (mg/l) at 03298200

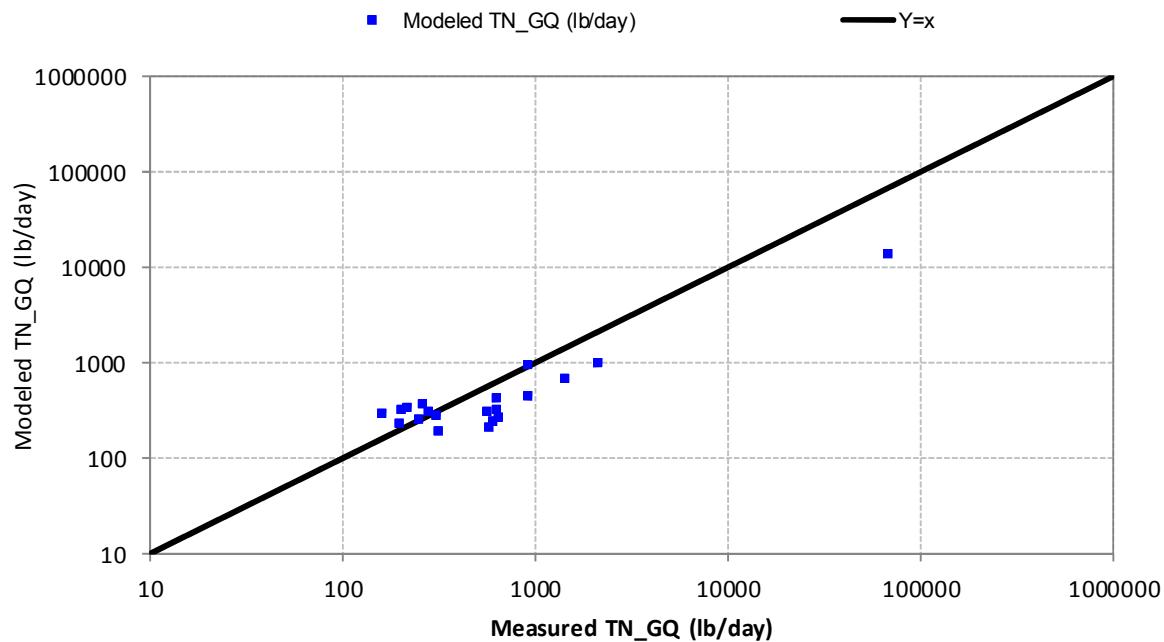


Figure B-228 Modeled vs. Observed Load TN_GQ at 03298200

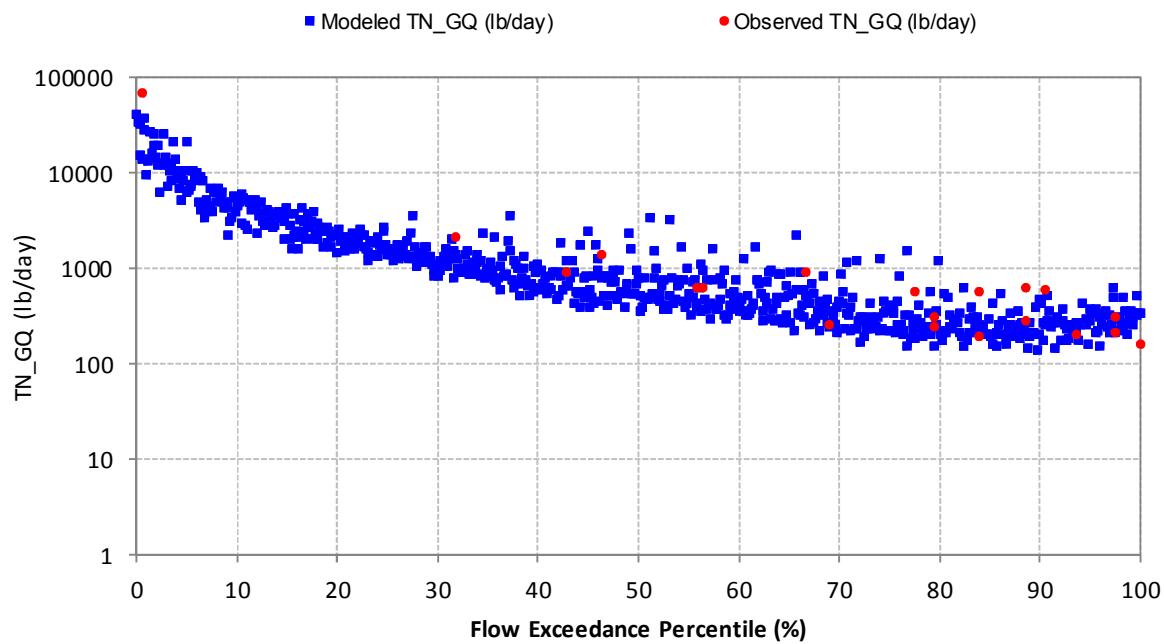


Figure B-229 Modeled vs. Observed Load TN_GQ at 03298200

Table B-46 Modeled vs. Observed Load TN_GQ at 03298200

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	647,354	1,610,815	-59.81	1,396,224	-53.64	
2008	822,154	1,846,219	-55.47	1,746,585	-52.93	

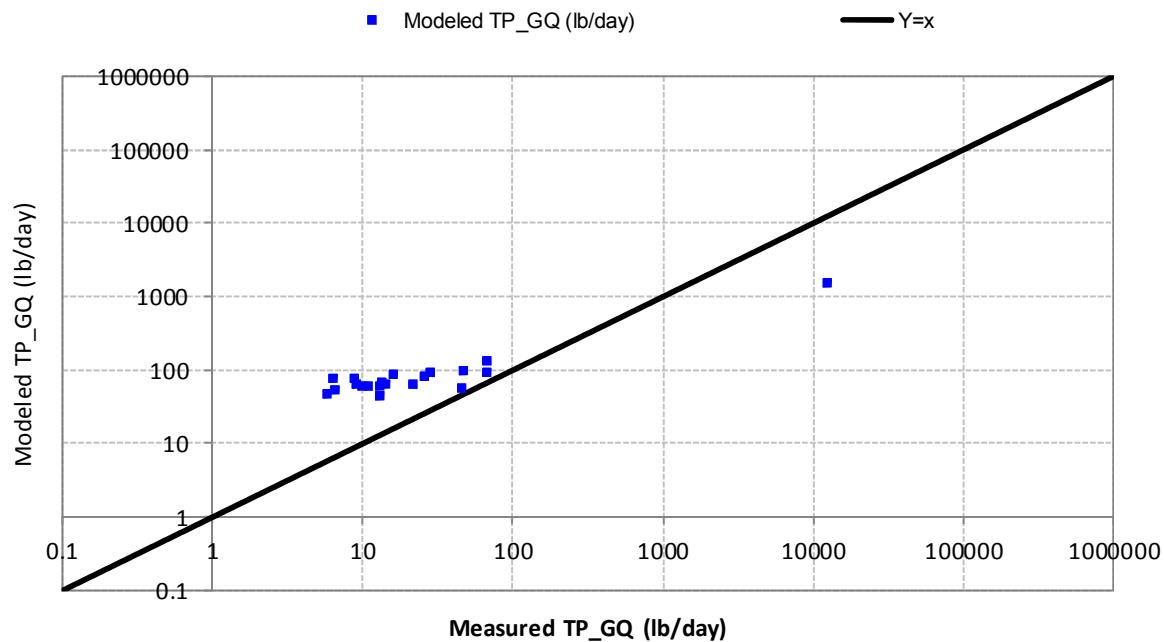


Figure B-230 Modeled vs. Observed Load TP_GQ at 03298200

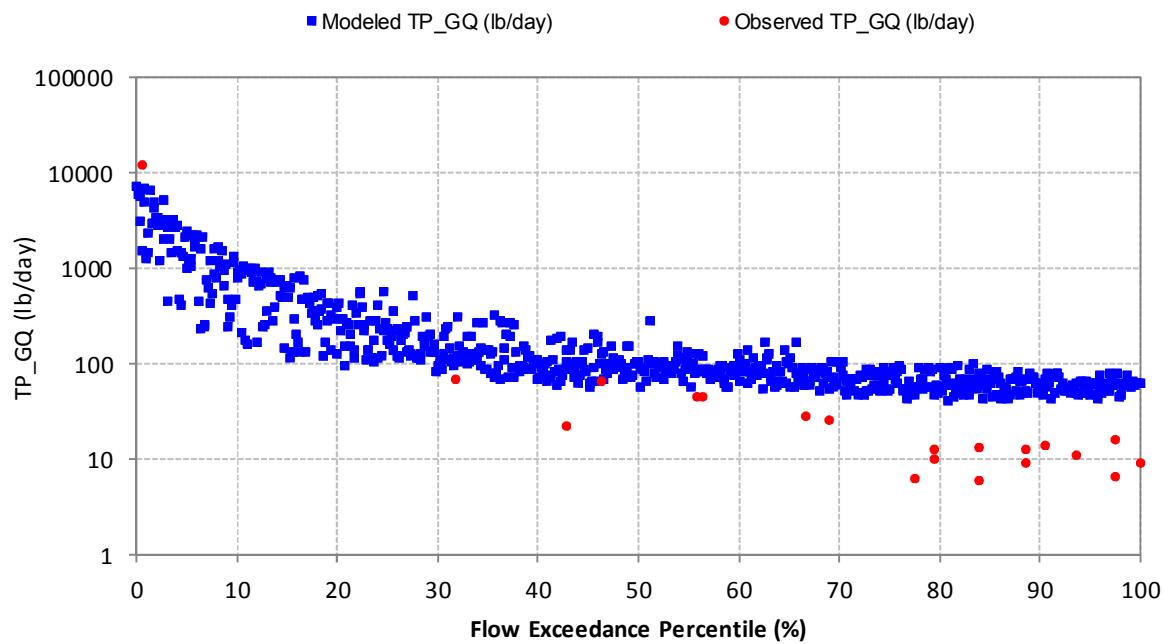


Figure B-231 Modeled vs. Observed Load TP_GQ at 03298200

Table B-47 Modeled vs. Observed Load TP_GQ at 03298200

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	110,425	125,796	-12.22	109,496	0.85
2008	135,312	72,462	86.74	57,689	134.56

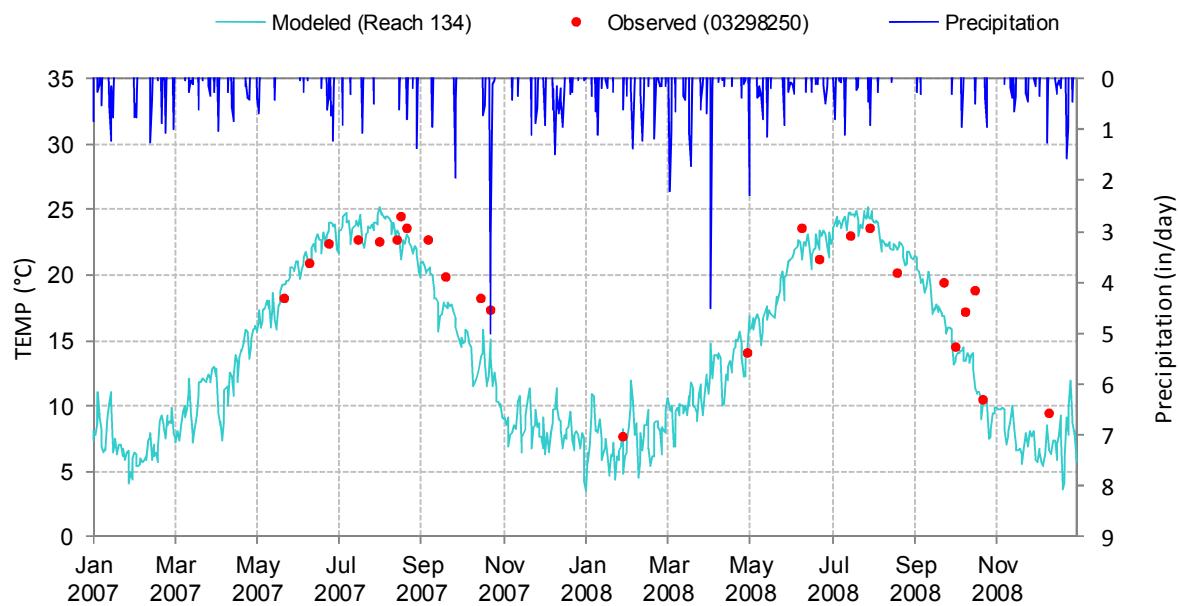


Figure B-232 Modeled vs. Observed TEMP (°C) at 03298250

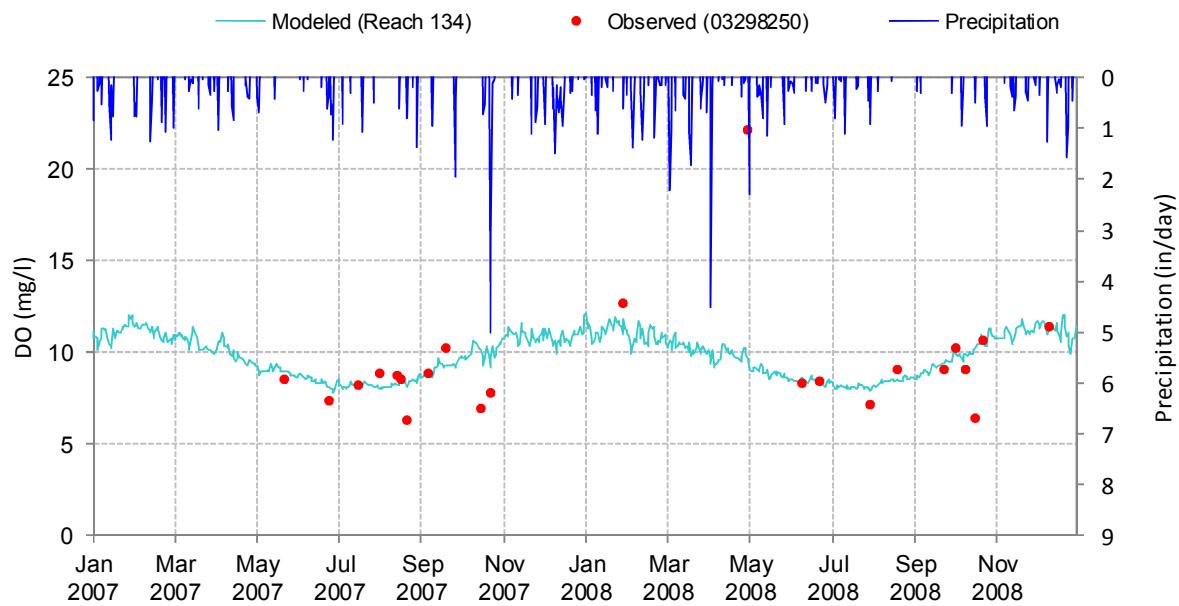


Figure B-233 Modeled vs. Observed DO (mg/l) at 03298250

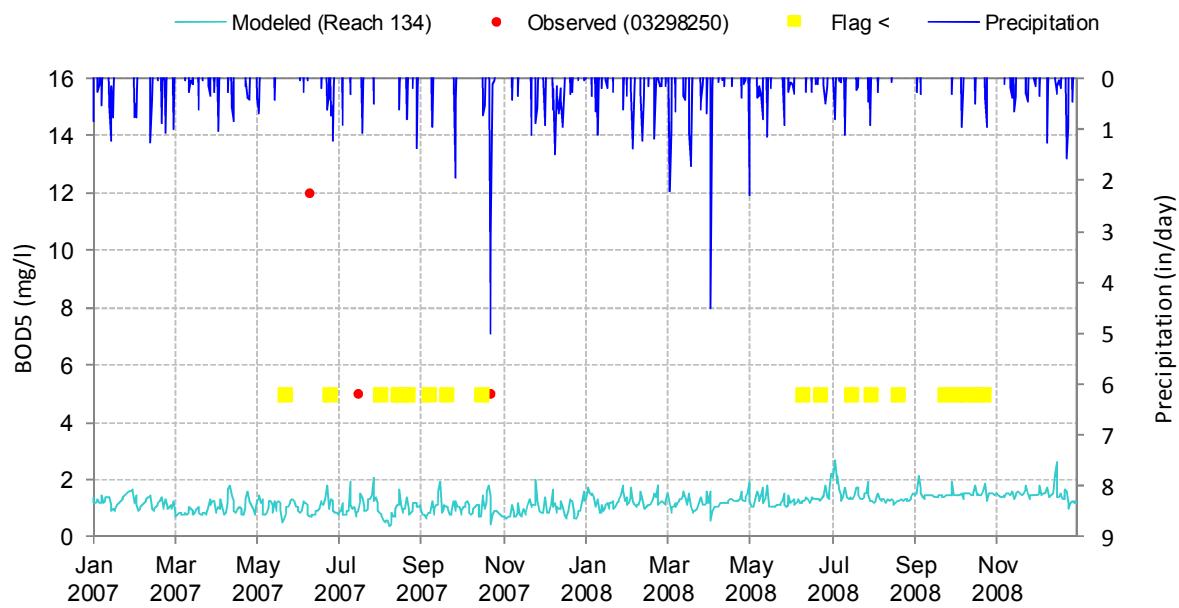


Figure B-234 Modeled vs. Observed BOD5 (mg/l) at 03298250

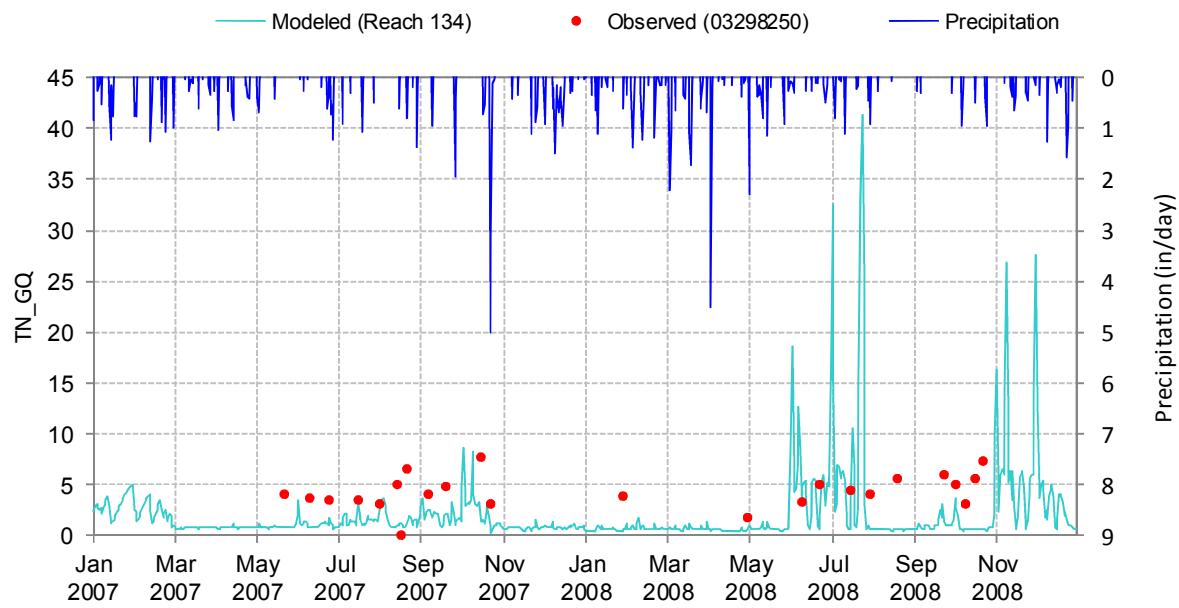


Figure B-235 Modeled vs. Observed TN_GQ at 03298250

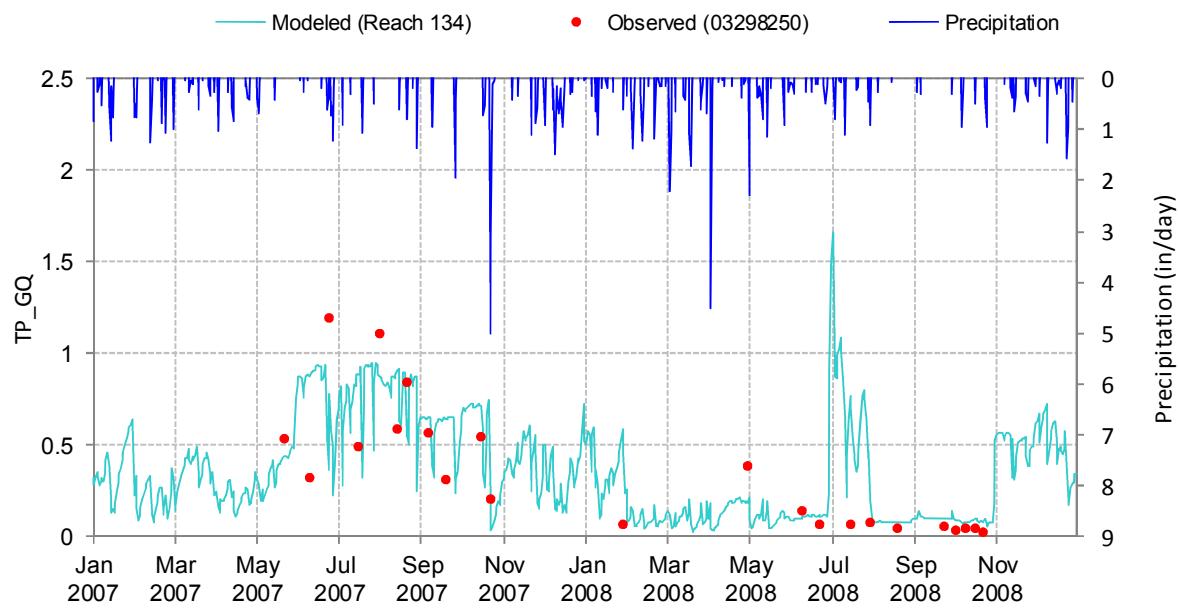


Figure B-236 Modeled vs. Observed TP_GQ at 03298250

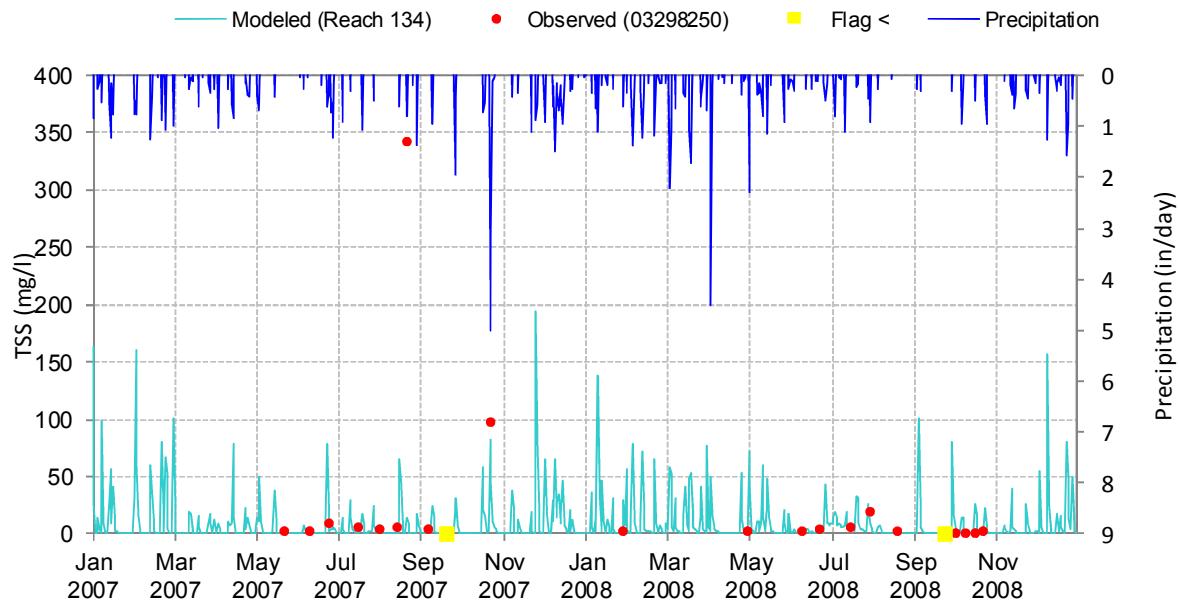


Figure B-237 Modeled vs. Observed TSS (mg/l) at 03298250

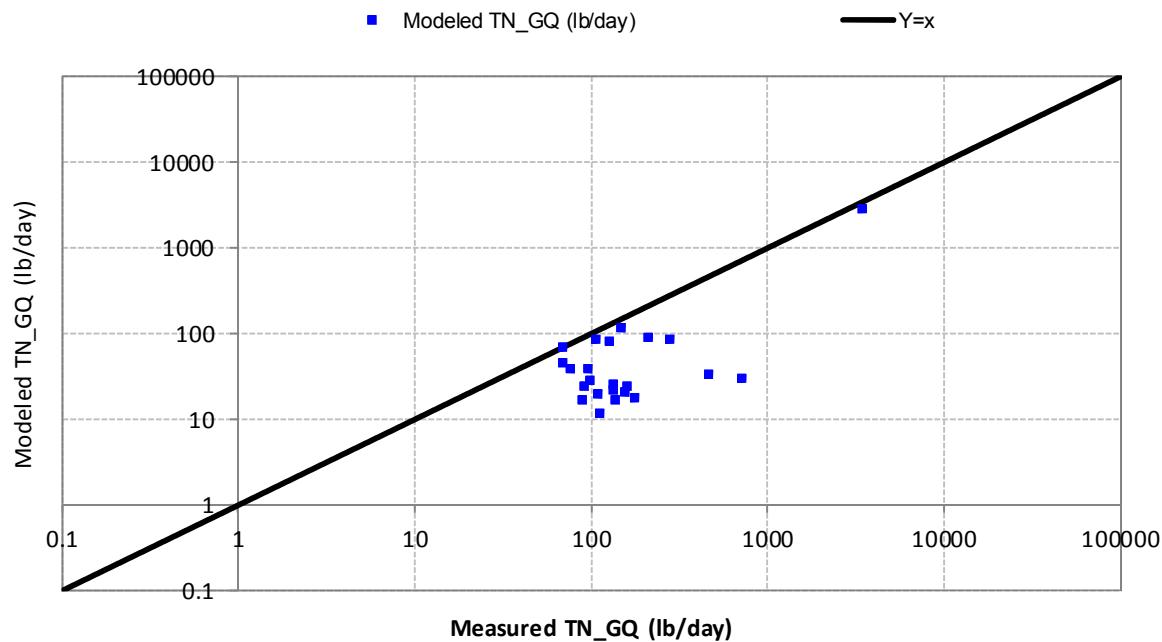


Figure B-238 Modeled vs. Observed Load TN_GQ at 03298250

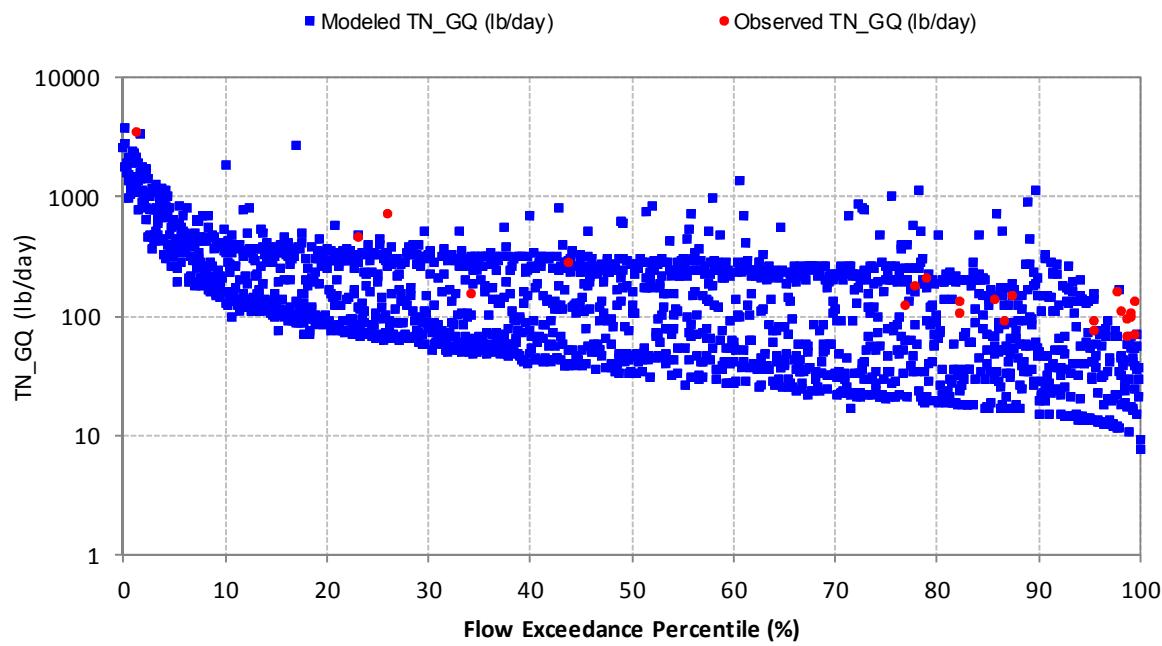


Figure B-239 Modeled vs. Observed Load TN_GQ at 03298250

Table B-48 Modeled vs. Observed Load TN_GQ at 03298250

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	58,957	133,412	-55.81	135,242	-56.41	
2008	67,276	198,861	-66.17	173,340	-61.19	

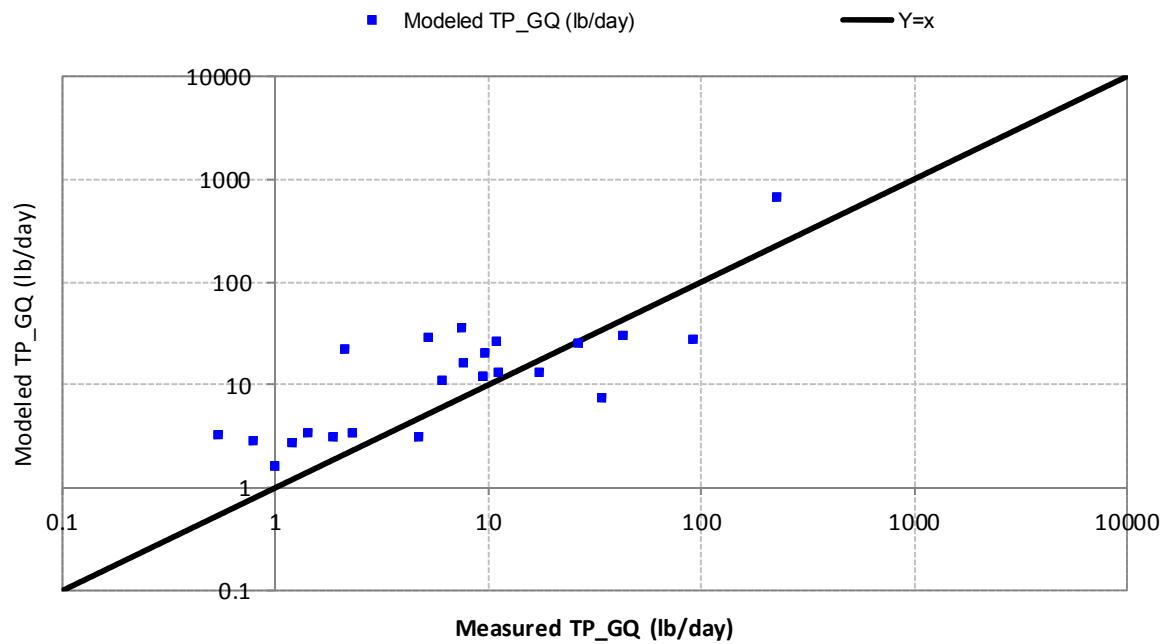


Figure B-240 Modeled vs. Observed Load TP_GQ at 03298250

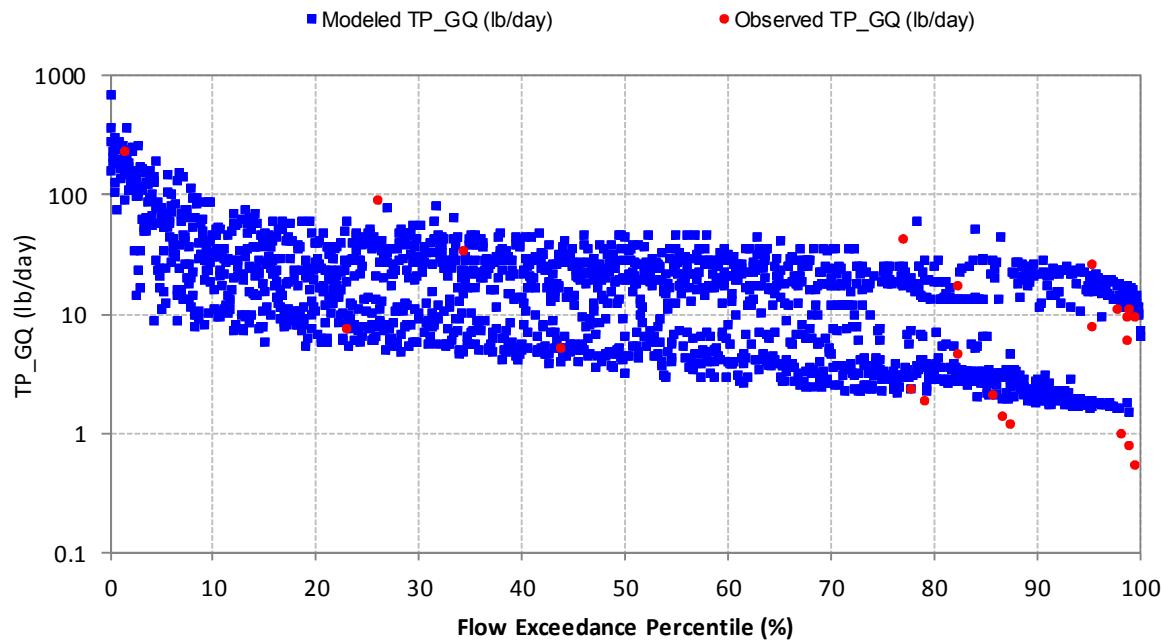


Figure B-241 Modeled vs. Observed Load TP_GQ at 03298250

Table B-49 Modeled vs. Observed Load TP_GQ at 03298250

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	12,451	15,206	-18.12	14,483	-14.03
2008	8,693	6,108	42.32	10,588	-17.9

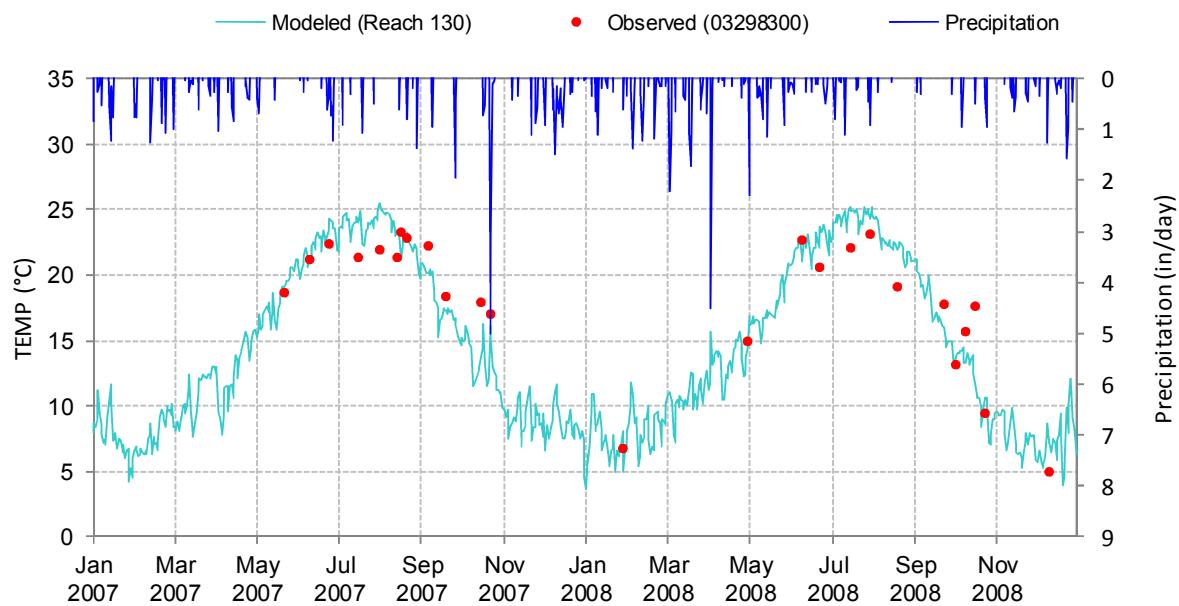


Figure B-242 Modeled vs. Observed TEMP (°C) at 03298300

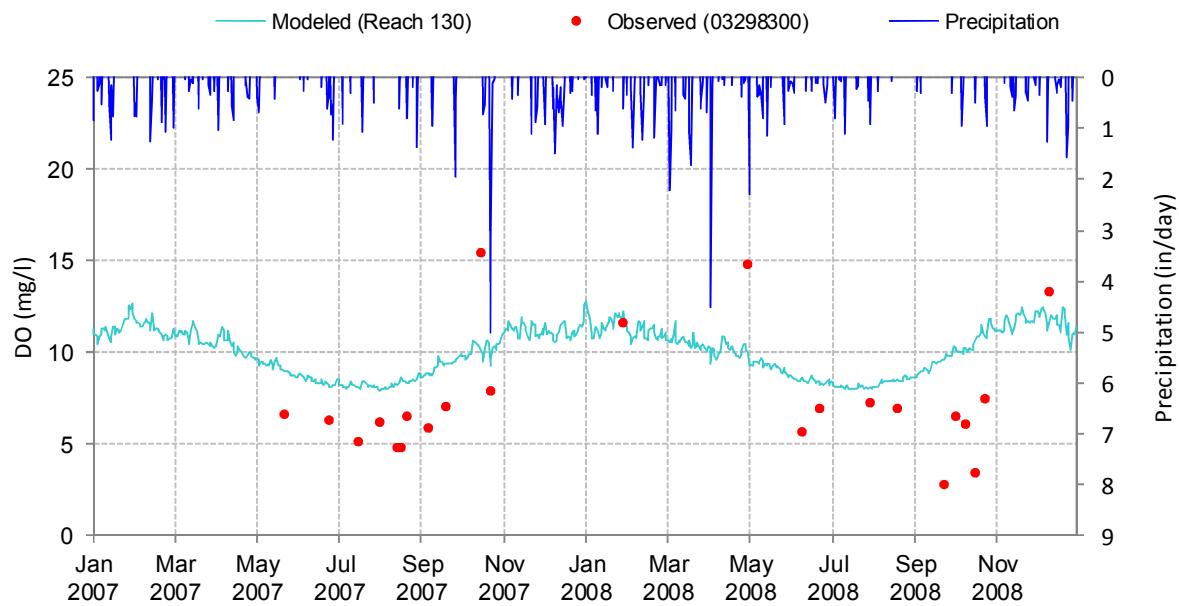


Figure B-243 Modeled vs. Observed DO (mg/l) at 03298300

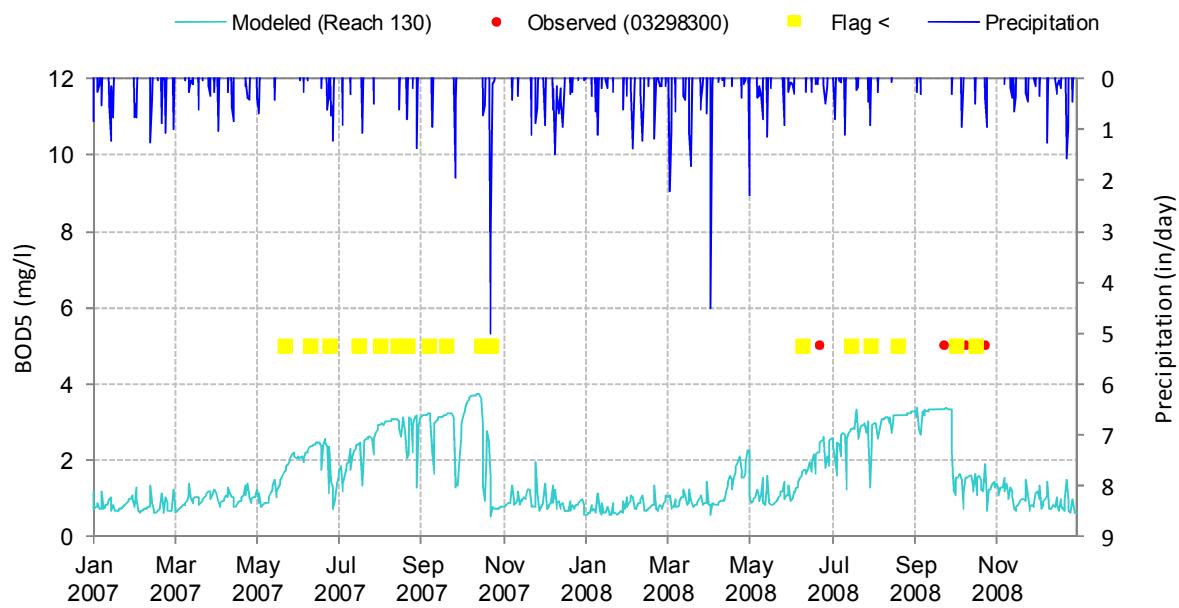


Figure B-244 Modeled vs. Observed BOD5 (mg/l) at 03298300

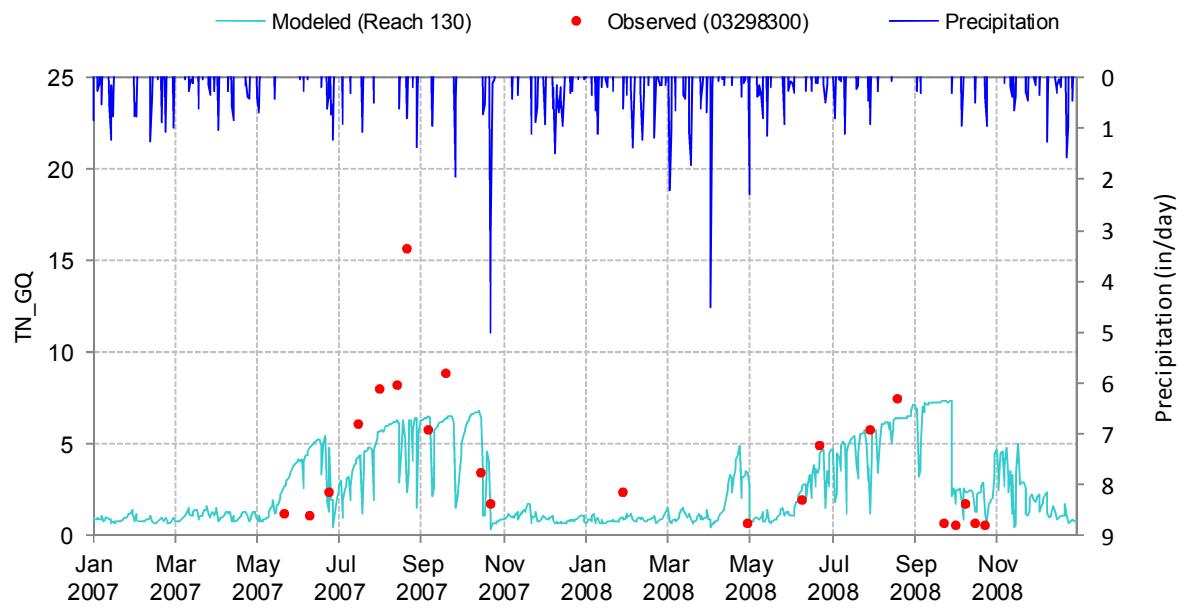


Figure B-245 Modeled vs. Observed TN_GQ at 03298300

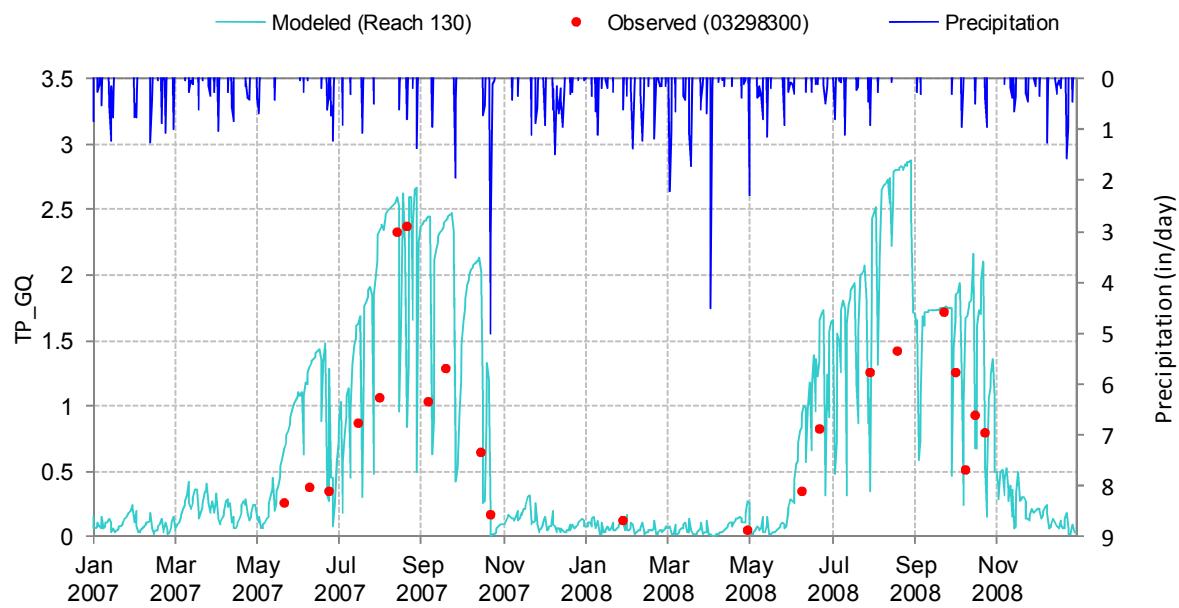


Figure B-246 Modeled vs. Observed TP_GQ at 03298300

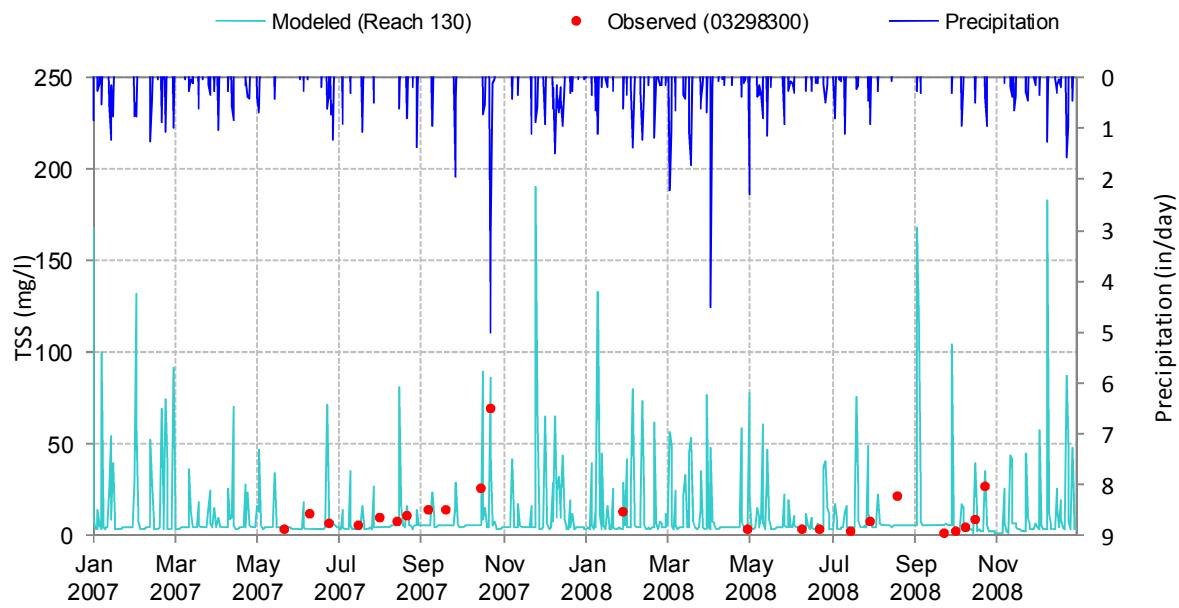


Figure B-247 Modeled vs. Observed TSS (mg/l) at 03298300

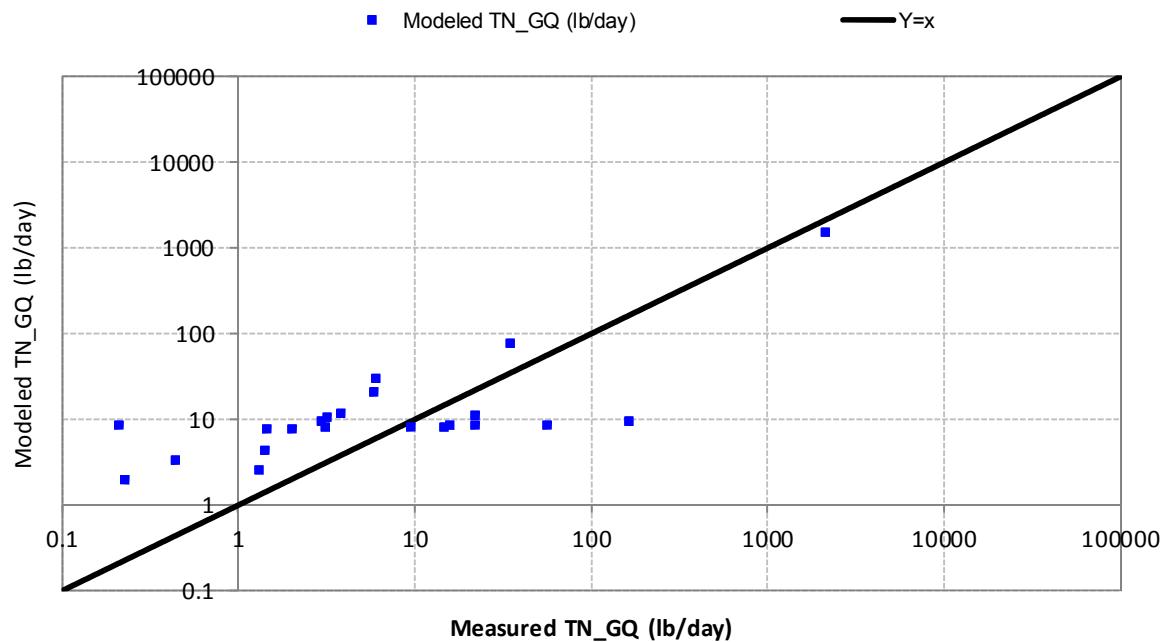


Figure B-248 Modeled vs. Observed Load TN_GQ at 03298300

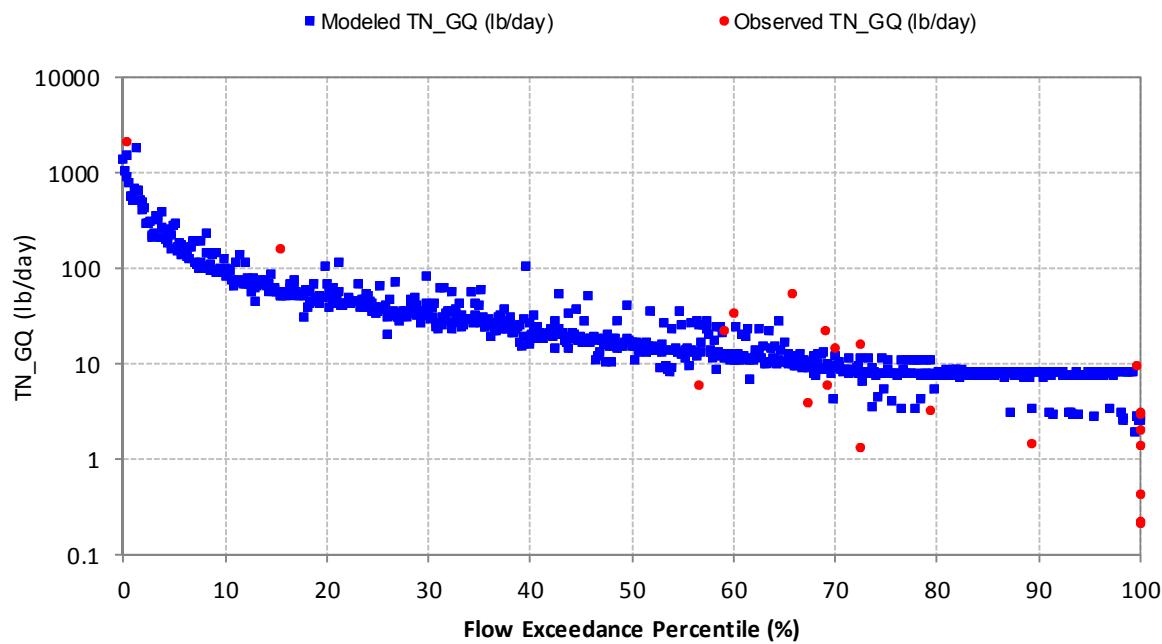


Figure B-249 Modeled vs. Observed Load TN_GQ at 03298300

Table B-50 Modeled vs. Observed Load TN_GQ at 03298300

Year	Simulated	Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	18,157	28,722	-36.78	30,365	-40.2
2008	21,052	52,922	-60.22	43,315	-51.4

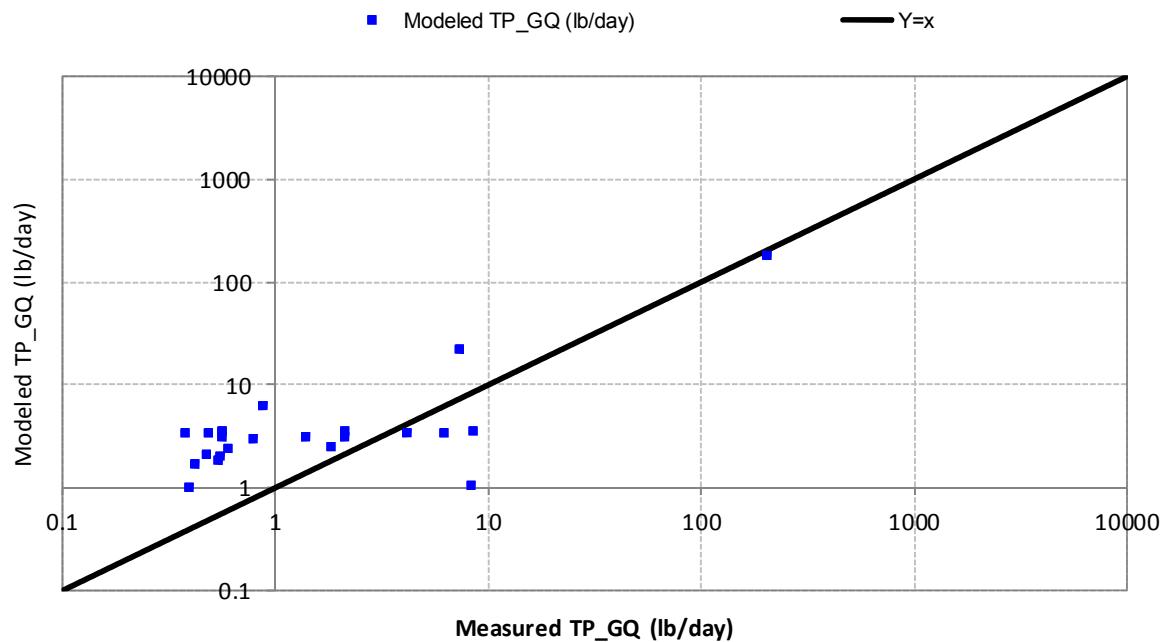


Figure B-250 Modeled vs. Observed Load TP_GQ at 03298300

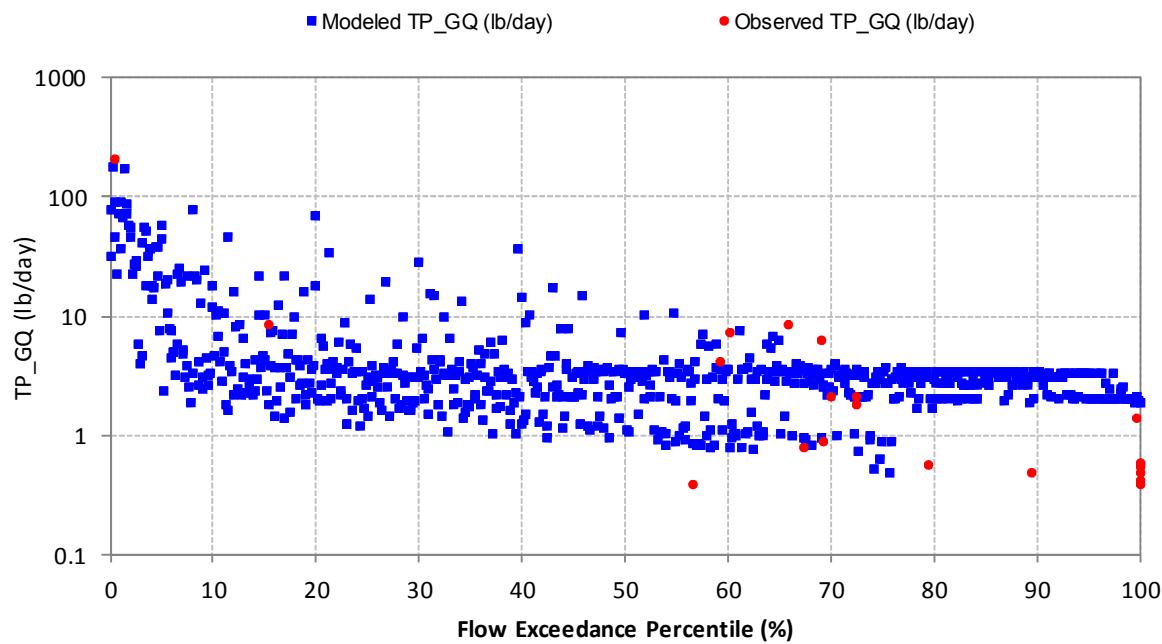


Figure B-251 Modeled vs. Observed Load TP_GQ at 03298300

Table B-51 Modeled vs. Observed Load TP_GQ at 03298300

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2007	2,458	4,209	-41.61	4,042	-39.19	
2008	2,133	3,883	-45.07	3,982	-46.43	

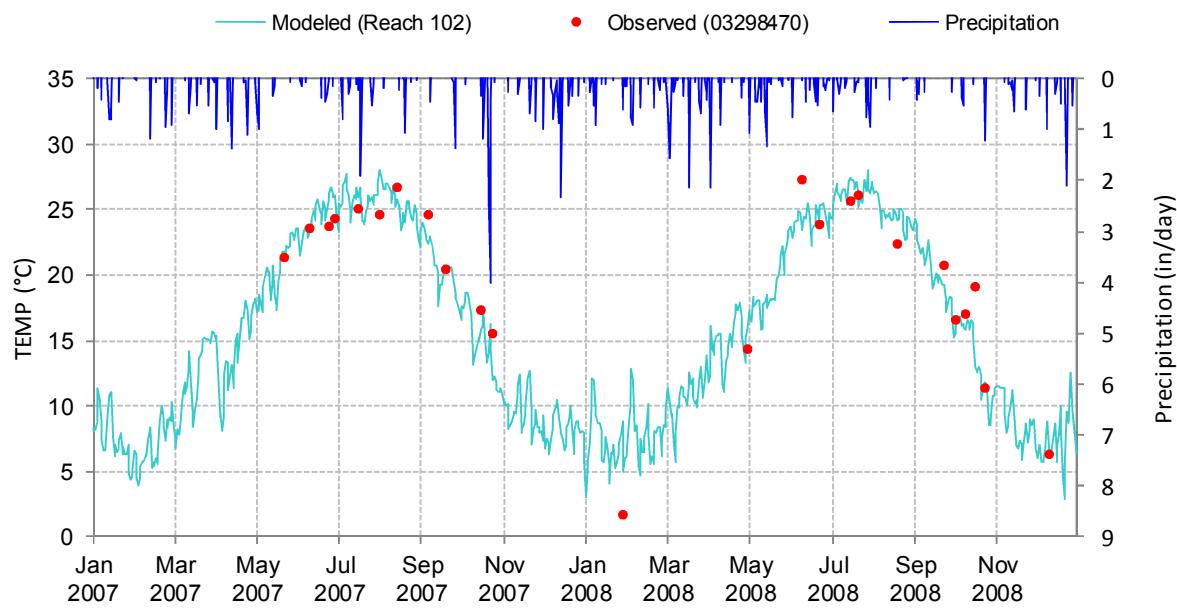


Figure B-252 Modeled vs. Observed TEMP (°C) at 03298470

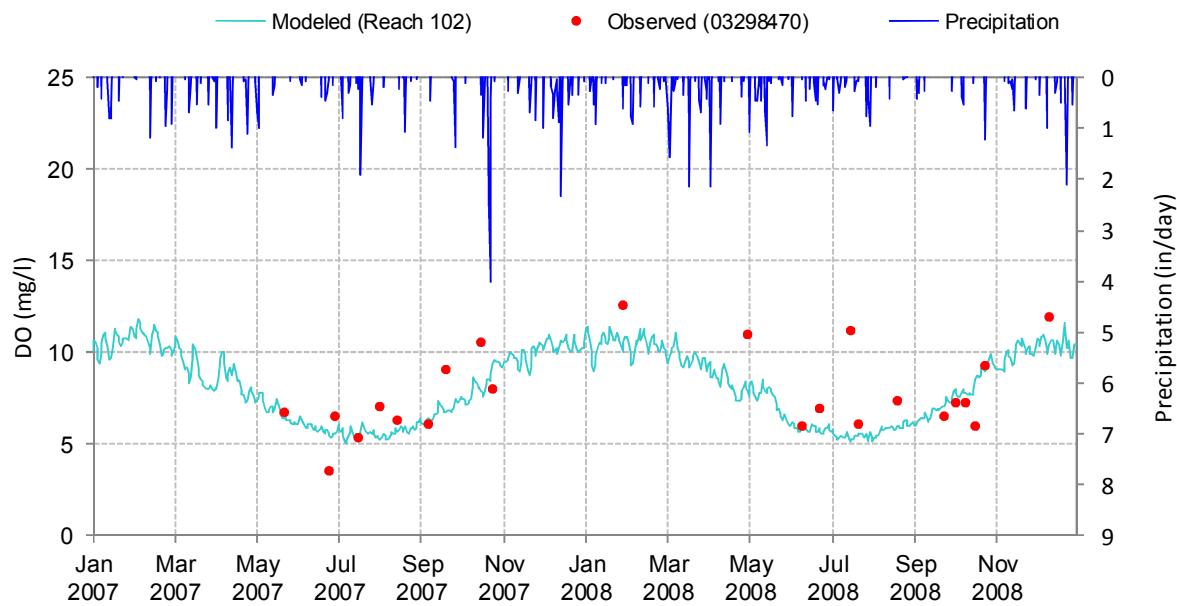


Figure B-253 Modeled vs. Observed DO (mg/l) at 03298470

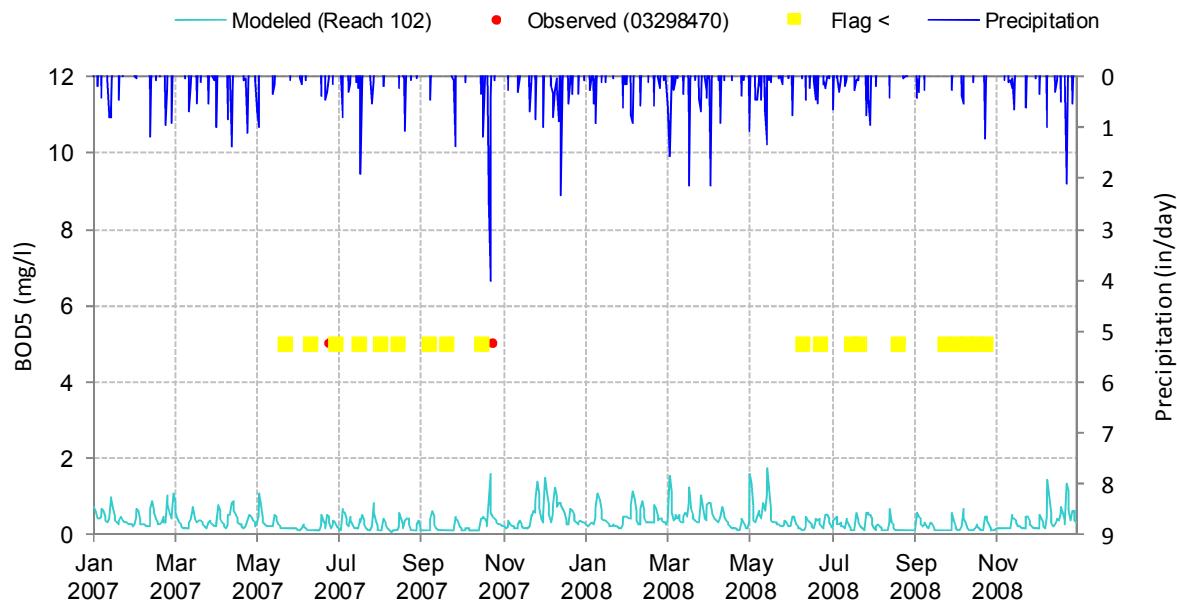


Figure B-254 Modeled vs. Observed BOD5 (mg/l) at 03298470

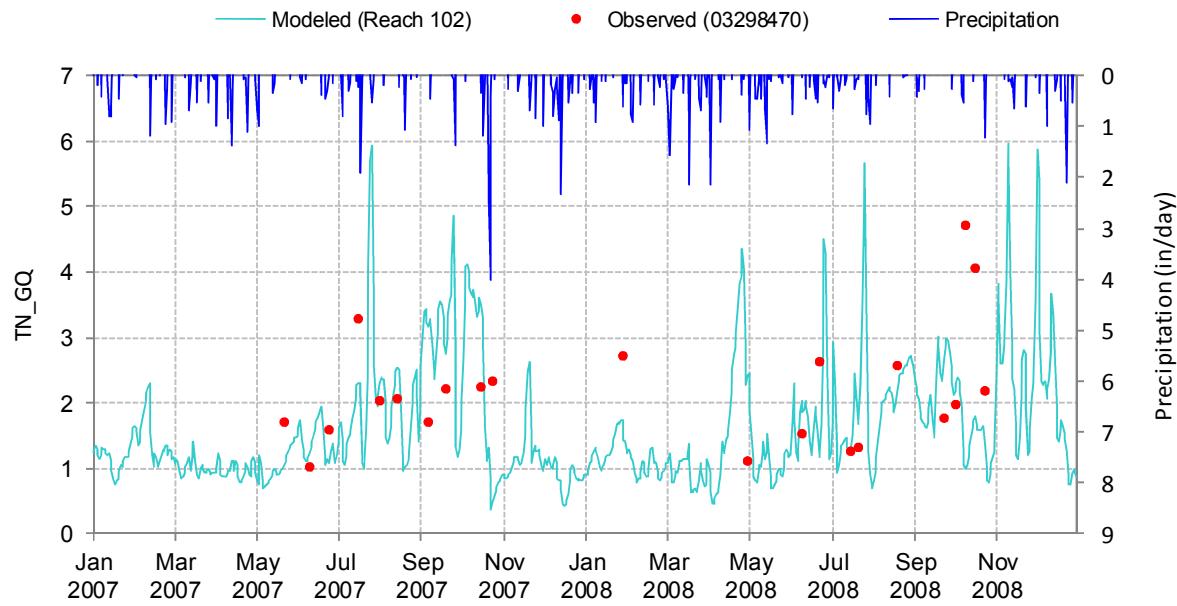


Figure B-255 Modeled vs. Observed TN_GQ at 03298470

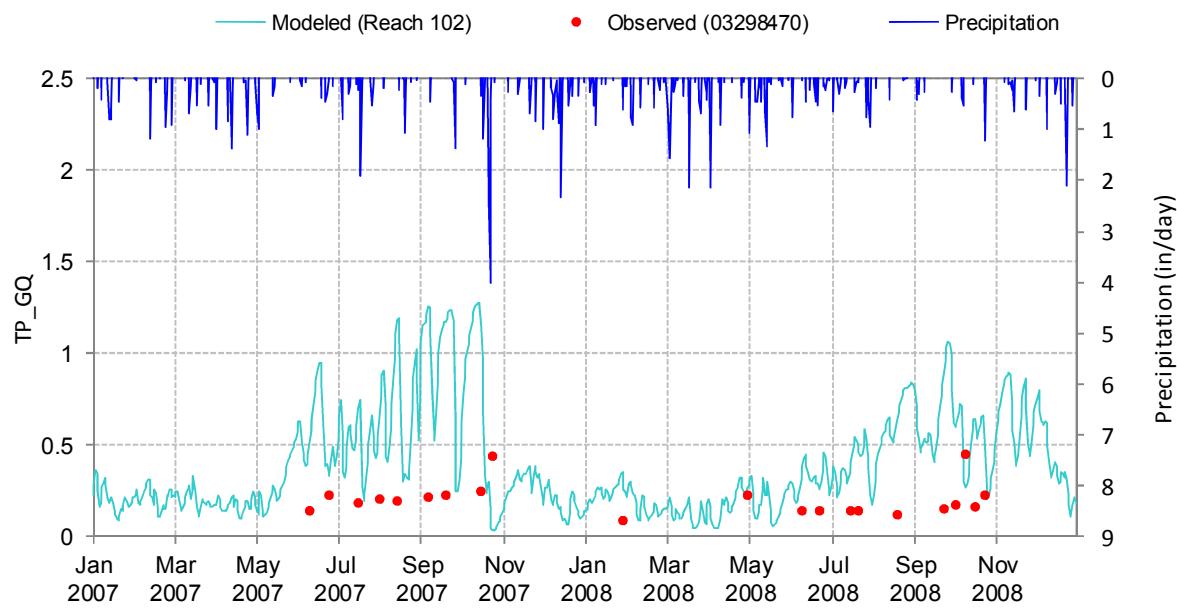


Figure B-256 Modeled vs. Observed TP_GQ at 03298470

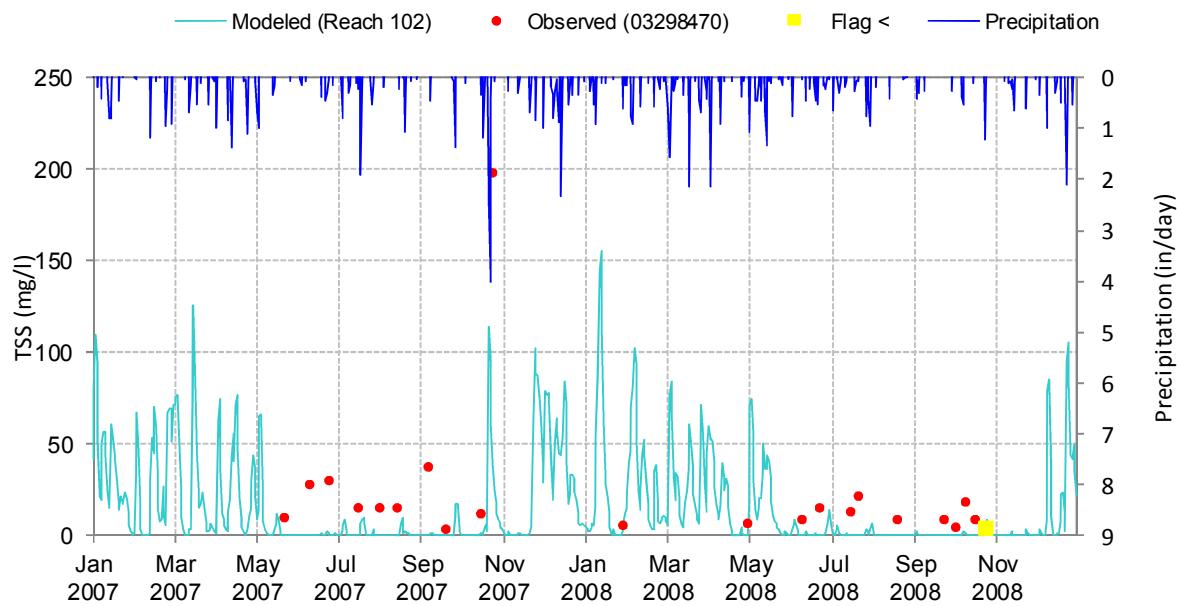


Figure B-257 Modeled vs. Observed TSS (mg/l) at 03298470

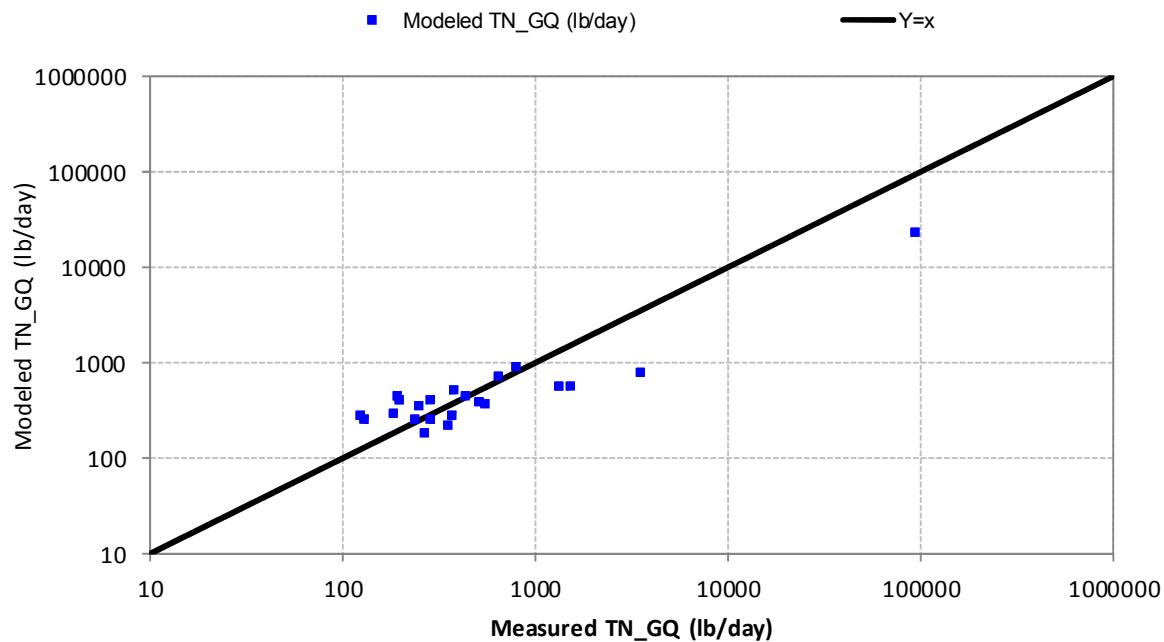


Figure B-258 Modeled vs. Observed Load TN_GQ at 03298470

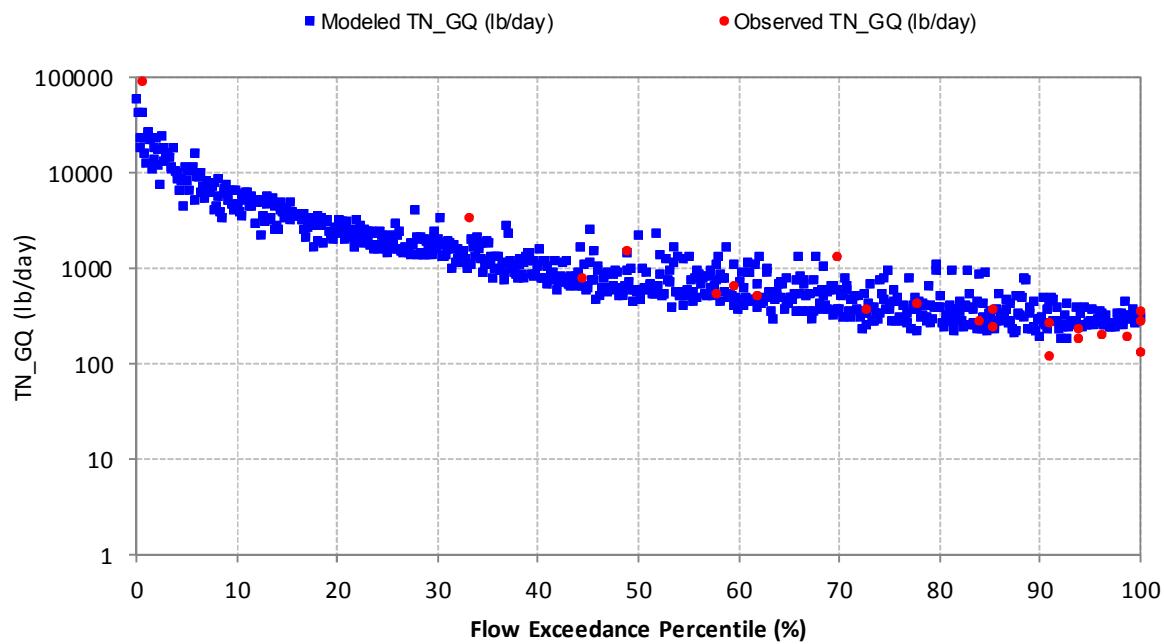


Figure B-259 Modeled vs. Observed Load TN_GQ at 03298470

Table B-52 Modeled vs. Observed Load TN_GQ at 03298470

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	747,984	1,583,668	-	-52.77	1,639,406	-54.37
2008	936,422	2,462,522	-	-61.97	1,985,291	-52.83

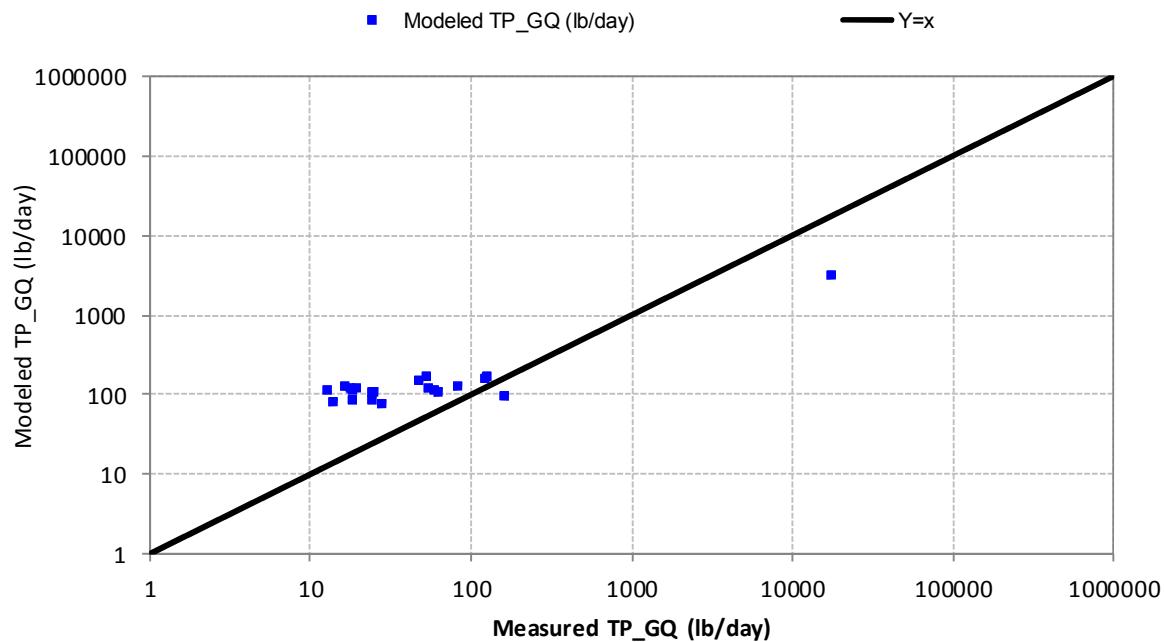


Figure B-260 Modeled vs. Observed Load TP_GQ at 03298470

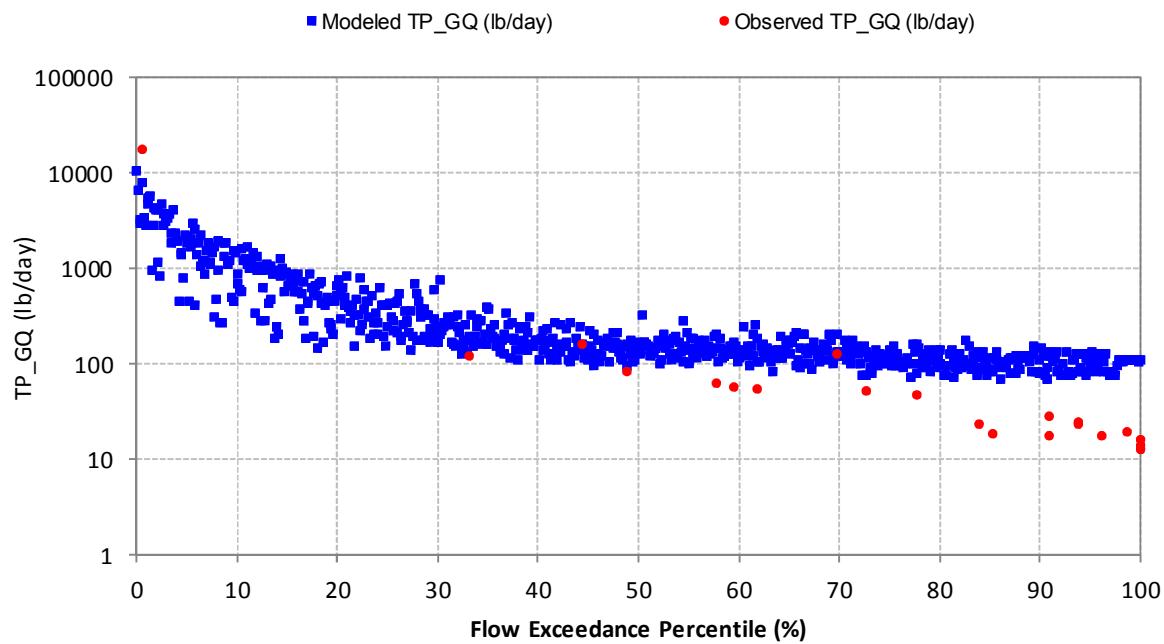


Figure B-261 Modeled vs. Observed Load TP_GQ at 03298470

Table B-53 Modeled vs. Observed Load TP_GQ at 03298470

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2007	149,939	207,454	-27.72	177,255	-15.41
2008	168,790	153,489	9.97	180,161	-6.31

Table B-54 Summary Qualitative and Quantitative scores for the USGS Water Quality Calibration stations

Water Quality Station location: Main Stem- Floyds Fork					
USGS Station ID	Station name	Qualitative Score		Quantitative Score	
		TN	TP	TN	TP
03297830	Floyds Fork at Highway 53	G	VG	40	2
03297845	Floyds Fork near Crestwood	G	G	49	58
03297900	Floyds Fork near Peewee Valley	G	G	45	57
03297930	Floyds Fork at Echo trail bridge	F	G	71	58
03298000	Floyds Fork at Fisherville	G	VG	51	21
03298120	Floyds Fork at Seatonville Road	G	G	52	44
03298200	Floyds Fork near Mt. Washington	G	VG	58	24
03298470	Floyds Fork near Shepherdsville	G	VG	58	12
Water Quality Station location: Tributaries					
03297850	South Fork Curry's Fork at Moody Lane	G	G	67	62
03297855	South Fork Curry's Fork at Highway 393	VG	F	2	80
03297860	North Fork Curry's Fork at Stone Ridge road	G	F	51	72
03297875	Ashers Run at Abbott lane near	G	G	50	39
03297880	Currys Fork near Crestwood	VG	VG	23	25
03297950	Long Run at Old stage coach road	VG	VG	5	12
03297975	South Long Run at Hobbs Lane	VG	G	16	51
03297980	Long Run near Fisherville	VG	G	24	42
03298005	Pope lick at South poope lick road near Fisherville	VG	VG	23	13
03298020	Chenoweth Run at Gelhaus Lane	VG	G	27	47
03298100	Pope lick at pope lick road near Middletown	G	G	62	59
03298110	Pope lick at Rehl road near Fisherville	G	VG	37	21
03298135	Chenoweth Run at Ruckriegal Parkway	G	VG	62	9
03298138	Chenoweth Run at Jeffersontown STP at Jeffersontown	G	G	69	55
03298150	Chenoweth Run at Gelhaus Lane near Fern creek	G	VG	67	29
03298160	Chenoweth Run at Seatonville road near	G	G	48	42
03298250	Cedar Creek at Thixton Road	G	VG	62	1
03298300	Pennsylvania Run at Mt. Washington	G	G	52	43

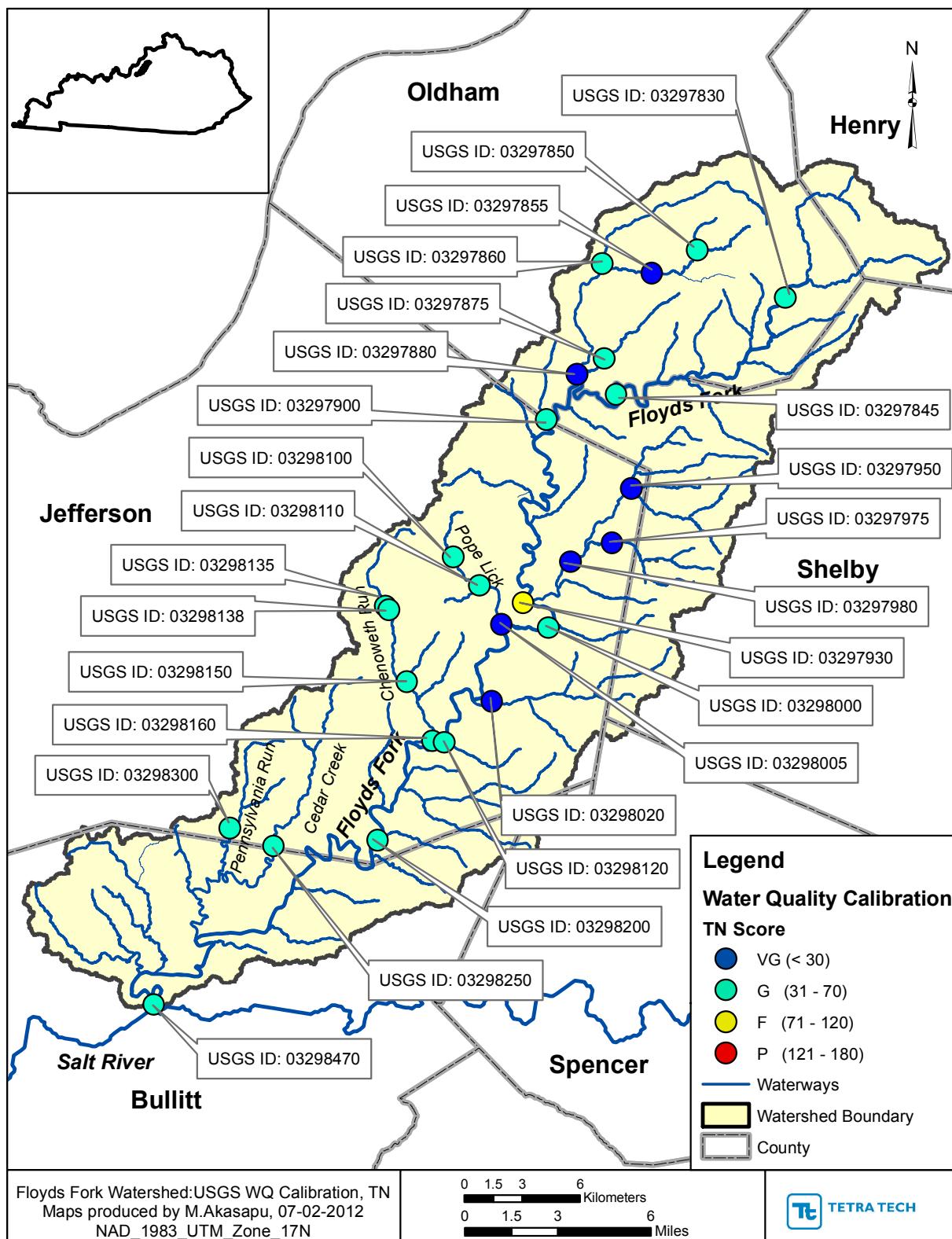


Figure B-262 USGS Water Quality for TN in the Floyds Fork Watershed

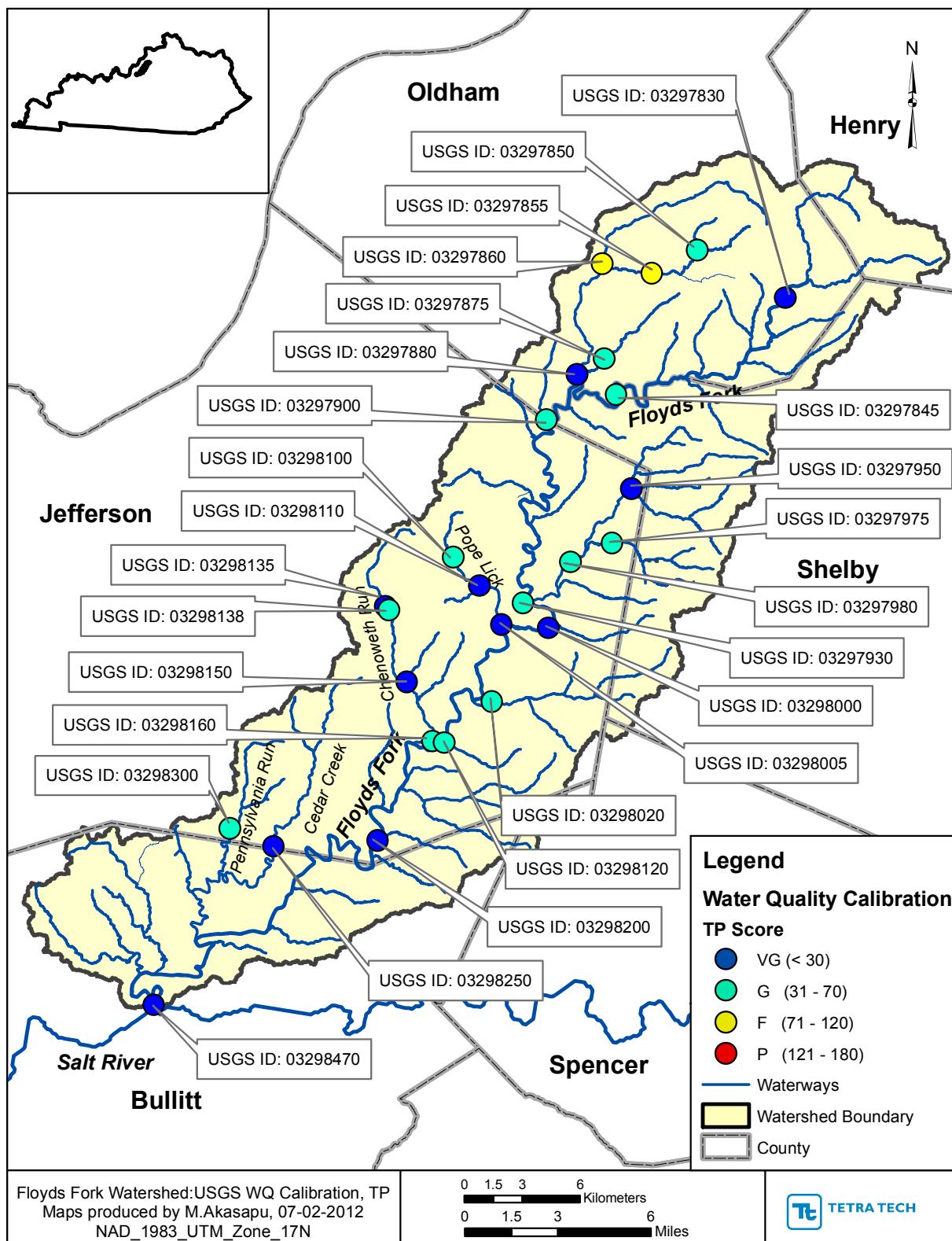


Figure B-263 USGS Water Quality for TP in the Floyds Fork Watershed

Table B-55 LSPC Watershed Water Quality Validation Stations

Station	Agency	Site Name	USGS Drainage Area (mi ²)	USGS Drainage Area (acres)	LSPC Watershed	LSPC Drainage Area (acres)	Type
EFFFF001	MSD	Floyds Fork at Ash Avenue	80	51136	615	53084	TEMP., DO, BOD5, TN, TP, TSS
EFFFF002	MSD	Floyds Fork at Bardstown Road	213	136320	606	137052	TEMP., DO, BOD5, TN, TP, TSS
EFFFF003	MSD	Floyds Fork at Old Taylorsville Road	138	88320	180	88803	TEMP., DO, BOD5, TN, TP, TSS
EFFCR001	MSD	Chenoweth Run # 1 at Gelhaus Lane	12	7424	609	8176	TEMP., DO, BOD5, TN, TP, TSS
EFFCR002	MSD	Chenoweth Run # 1 at Ruckriegal Parkway	5	3501	167	3449	TEMP., DO, BOD5, TN, TP, TSS

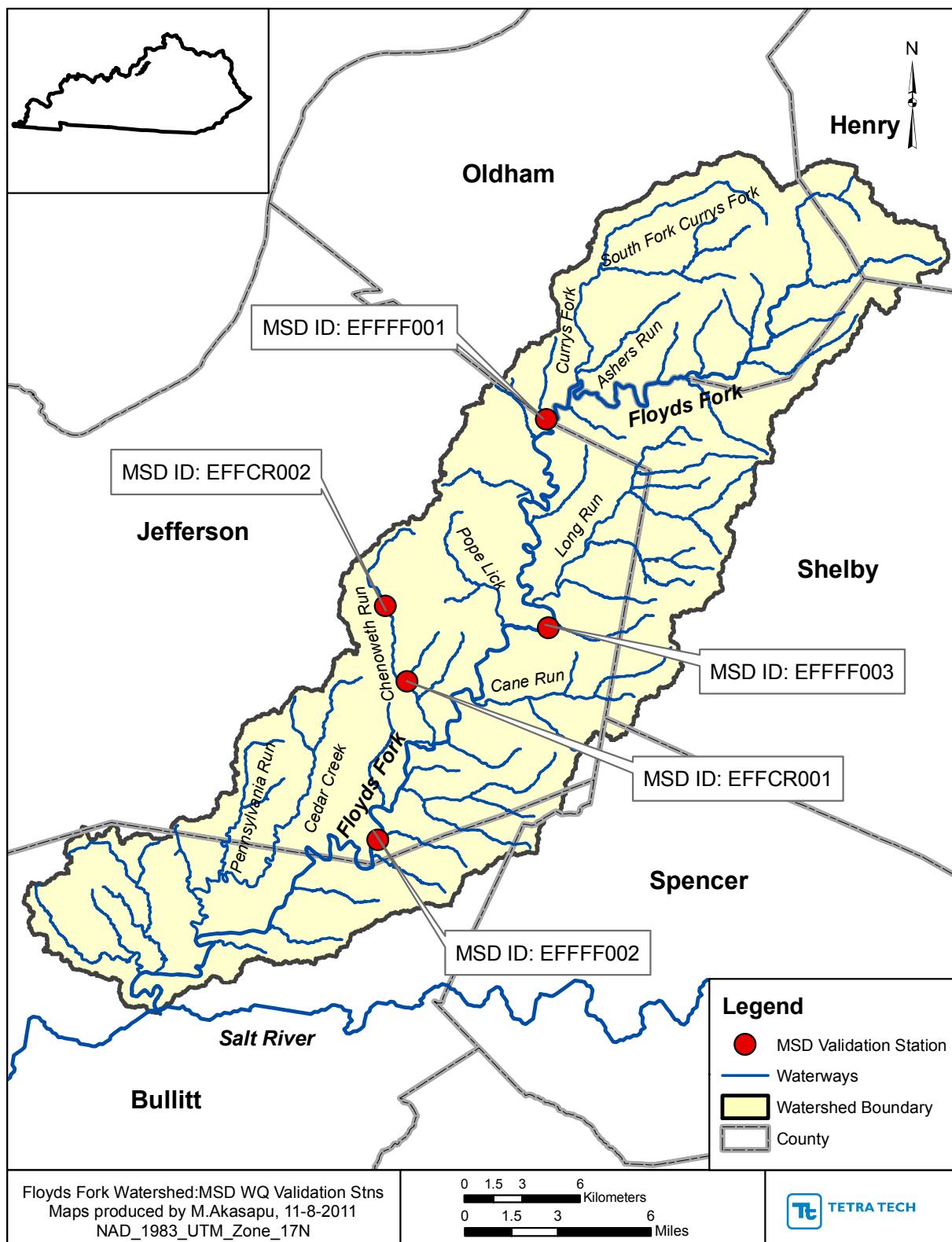


Figure B-260 MSD Water Quality Calibration Stations Utilized in the Floyds Fork Watershed Model

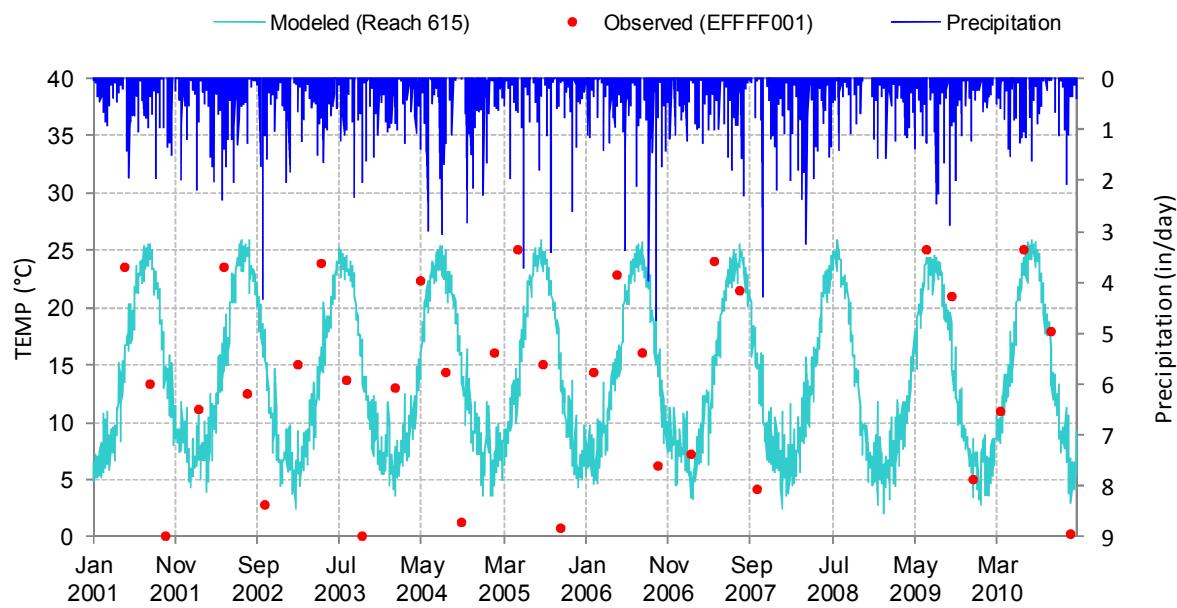


Figure B-261 Modeled vs. Observed TEMP (°C) at EFFFF001

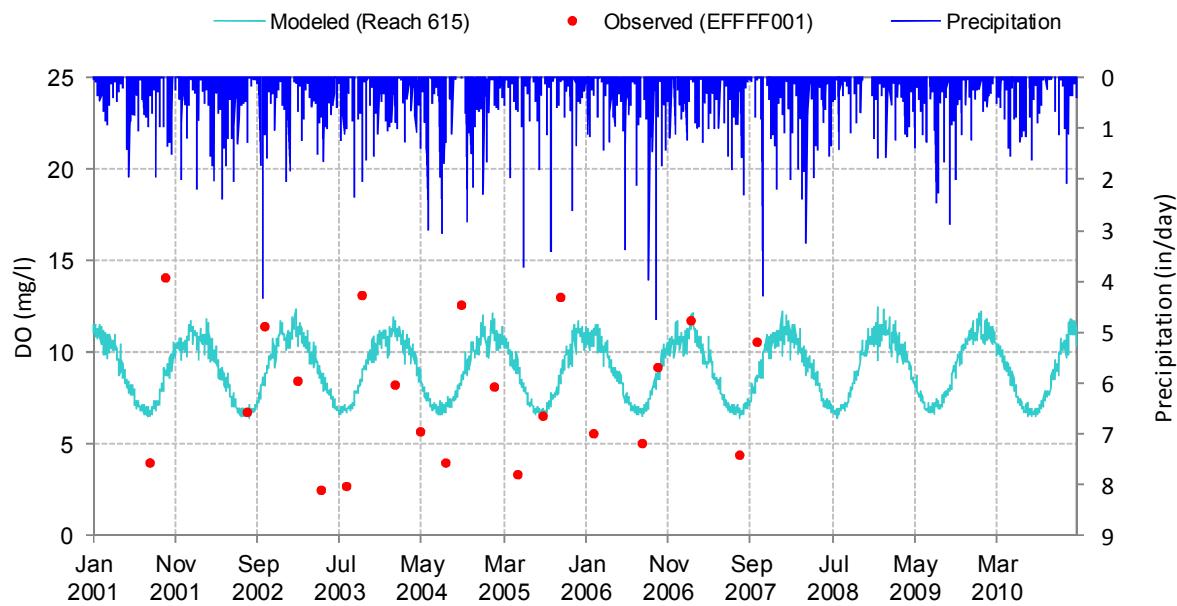


Figure B-262 Modeled vs. Observed DO (mg/l) at EFFFF001

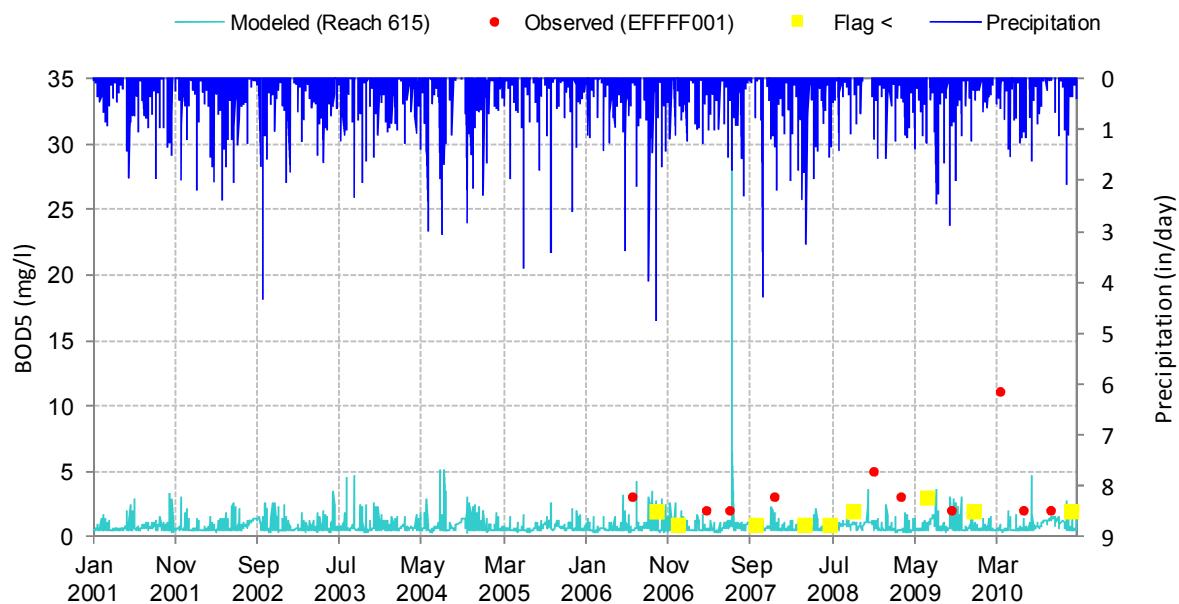


Figure B-263 Modeled vs. Observed BOD5 (mg/l) at EFFFF001

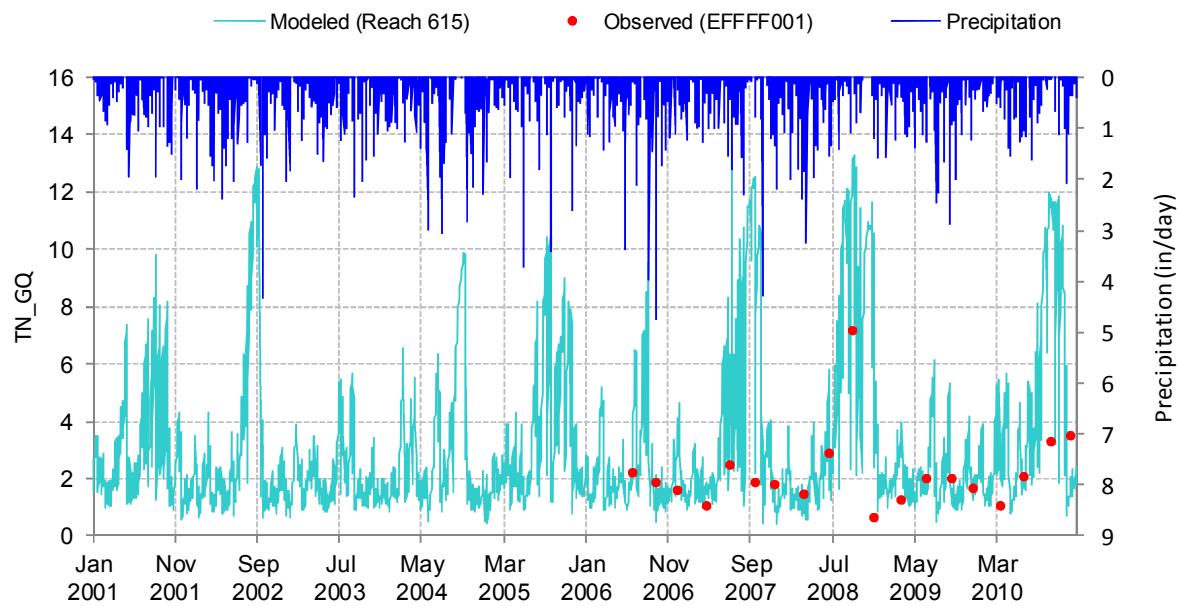


Figure B-264 Modeled vs. Observed TN_GQ at EFFFF001

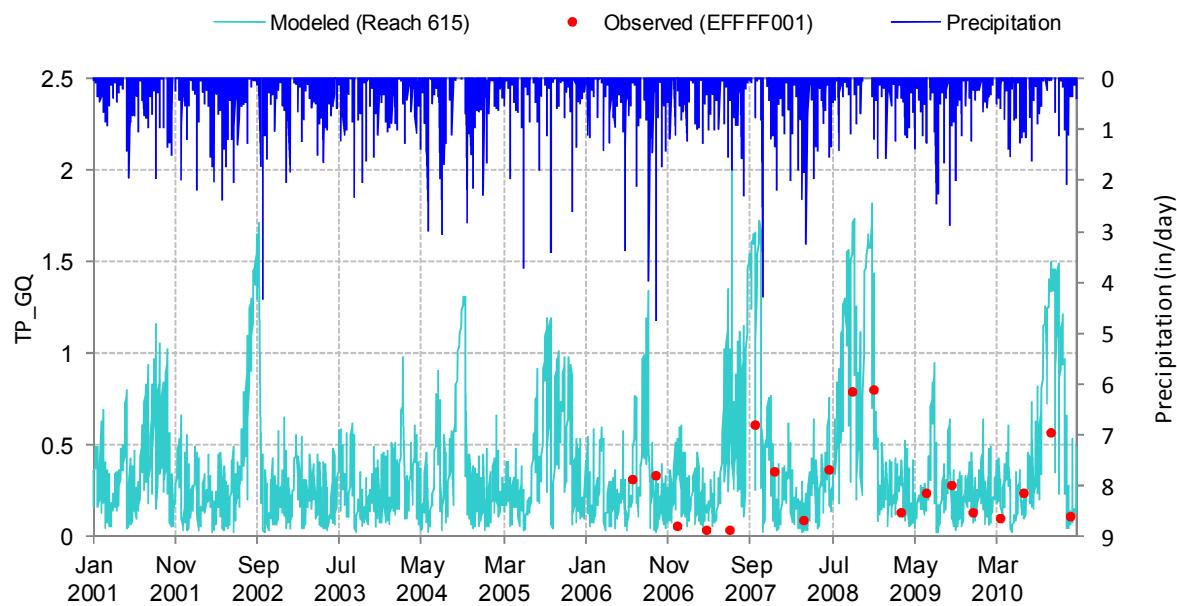


Figure B-265 Modeled vs. Observed TP_GQ at EFFFF001

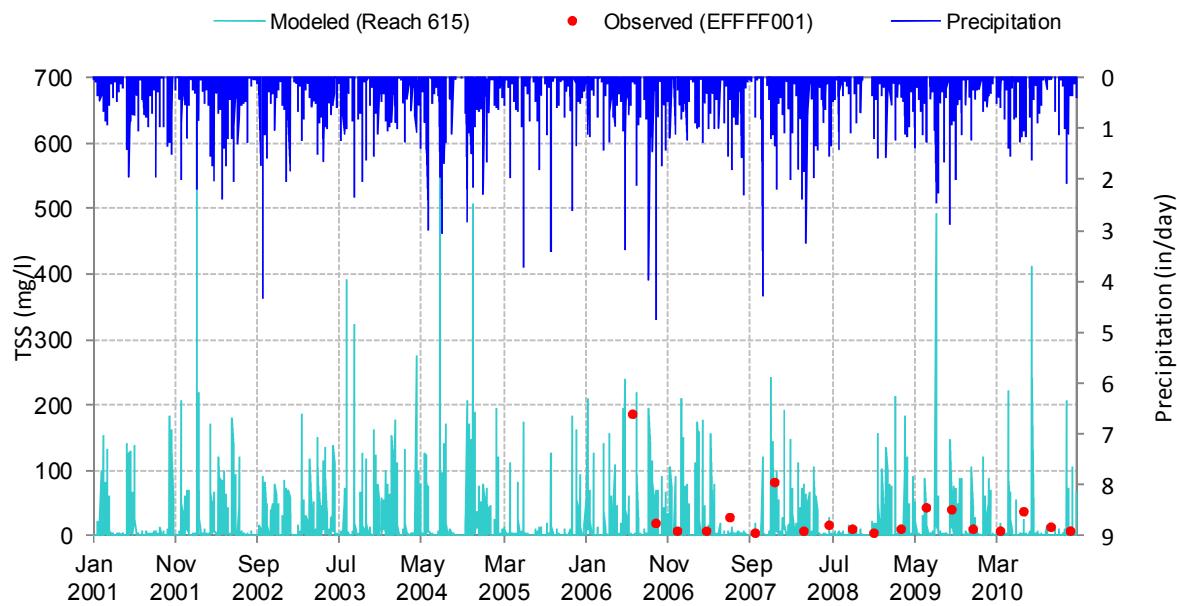


Figure B-266 Modeled vs. Observed TSS (mg/l) at EFFFF001

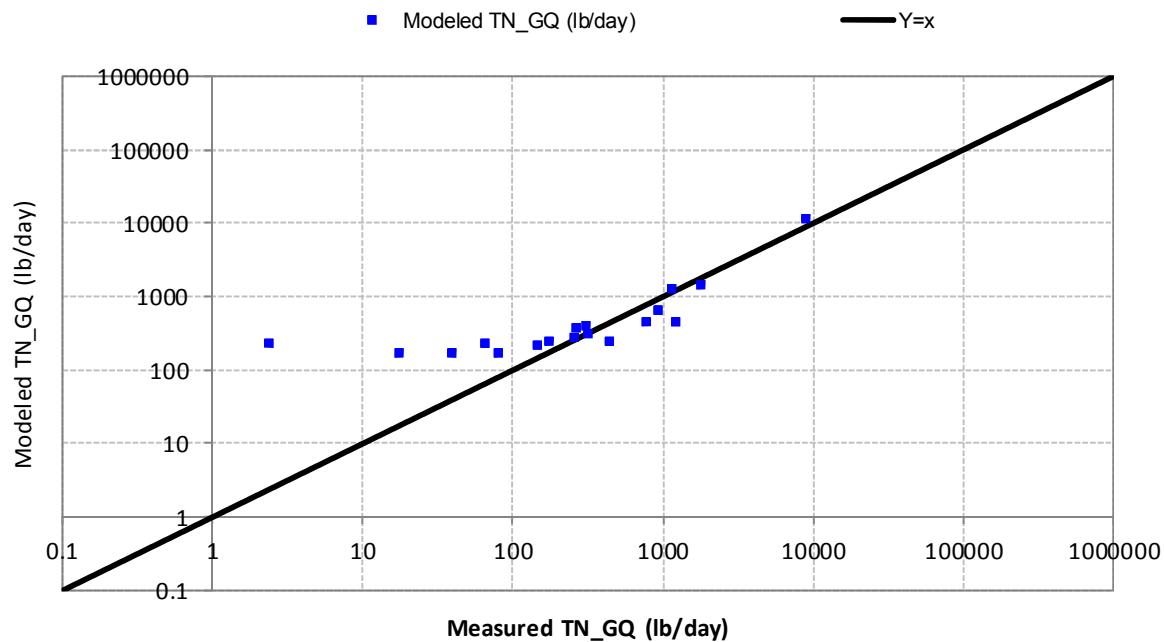


Figure B-267 Modeled vs. Observed Load TN_GQ at EFFFF001

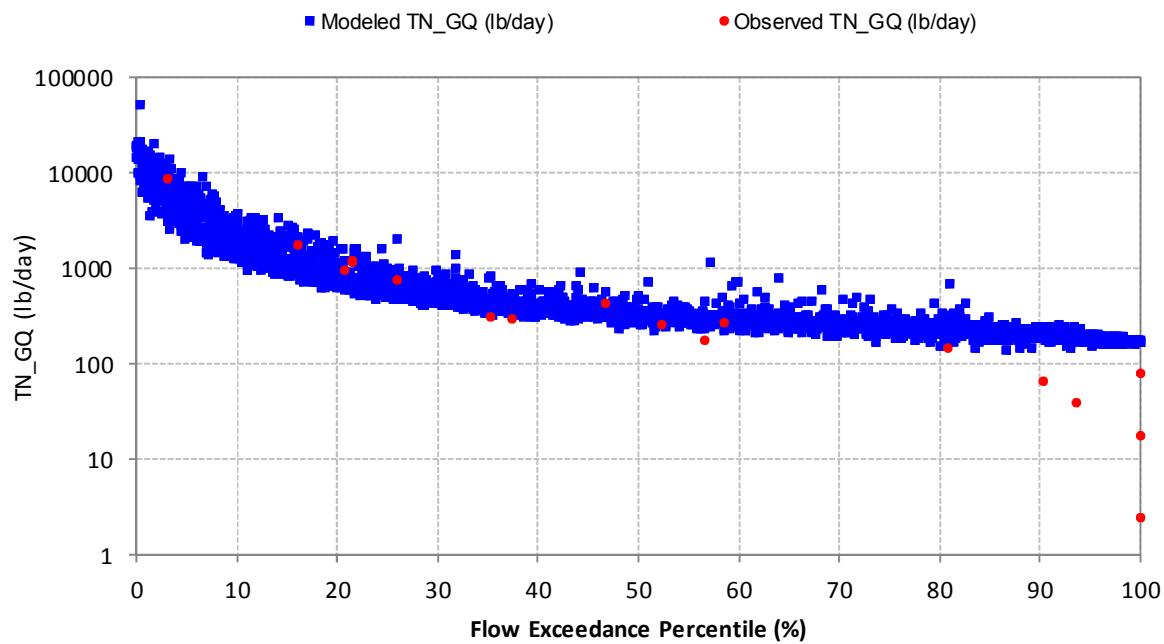


Figure B-268 Modeled vs. Observed Load TN_GQ at EFFFF001

Table B-54 Modeled vs. Observed Load TN_GQ at EFFFF001

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	440,496	613,896	-28.25	586,876	-24.94	
2007	336,462	394,580	-14.73	370,607	-9.21	
2008	360,489	496,368	-27.37	512,048	-29.6	
2009	394,101	451,322	-12.68	481,530	-18.16	
2010	230,818	227,129	1.62	247,077	-6.58	

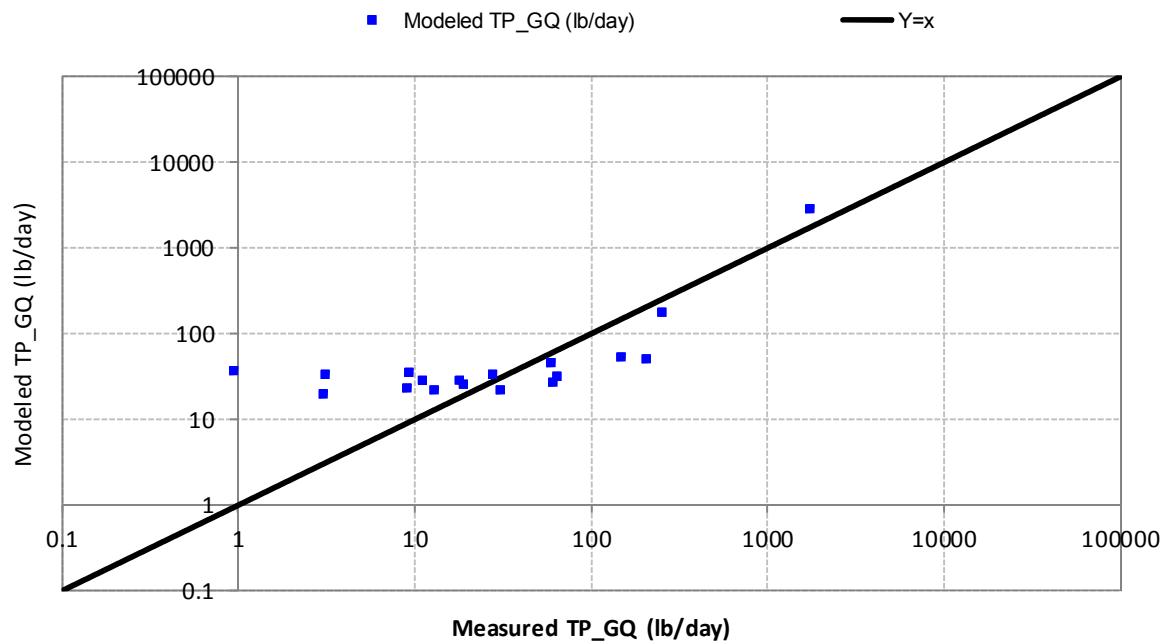


Figure B-269 Modeled vs. Observed Load TP_GQ at EFFFF001

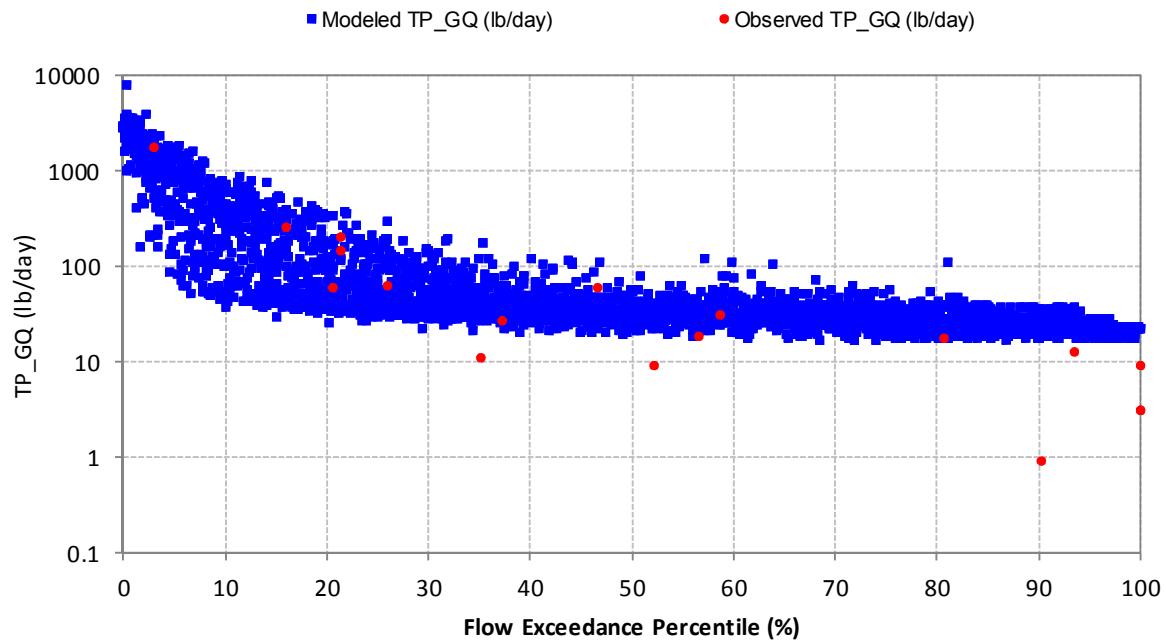


Figure B-270 Modeled vs. Observed Load TP_GQ at EFFFF001

Table B-55 Modeled vs. Observed Load TP_GQ at EFFFF001

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	67,898	87,260	-22.19	81,794	-16.99
2007	53,555	55,338	-3.22	46,330	15.6
2008	56,216	82,035	-31.47	60,945	-7.76
2009	57,396	94,139	-39.03	73,318	-21.72
2010	33,720	21,968	53.5	21,590	56.19

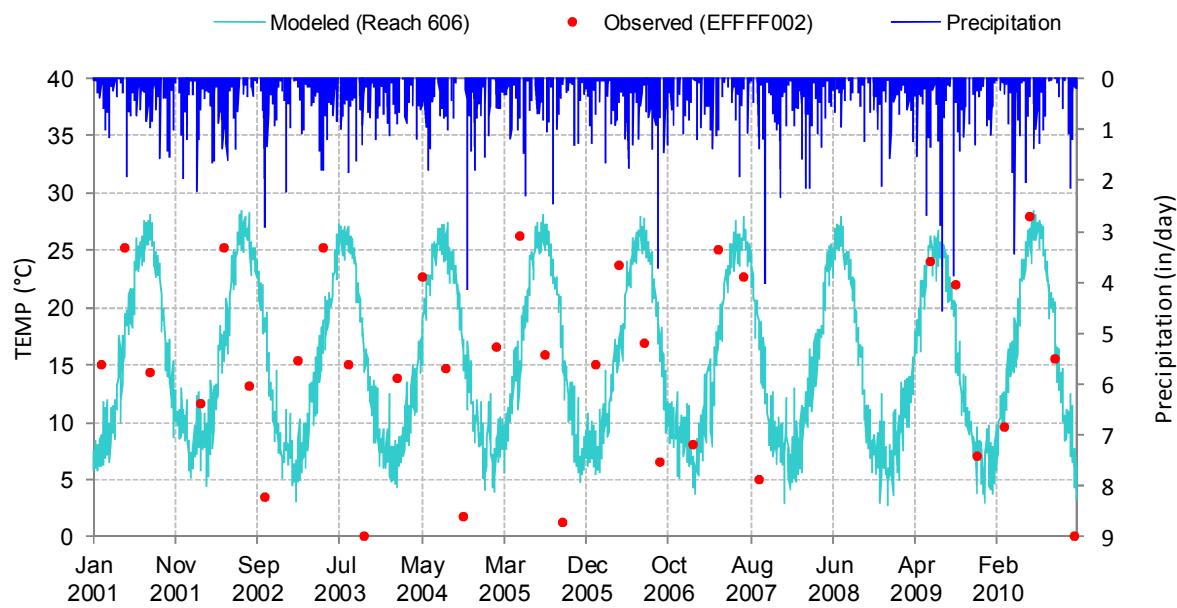


Figure B-271 Modeled vs. Observed TEMP (°C) at EFFFF002

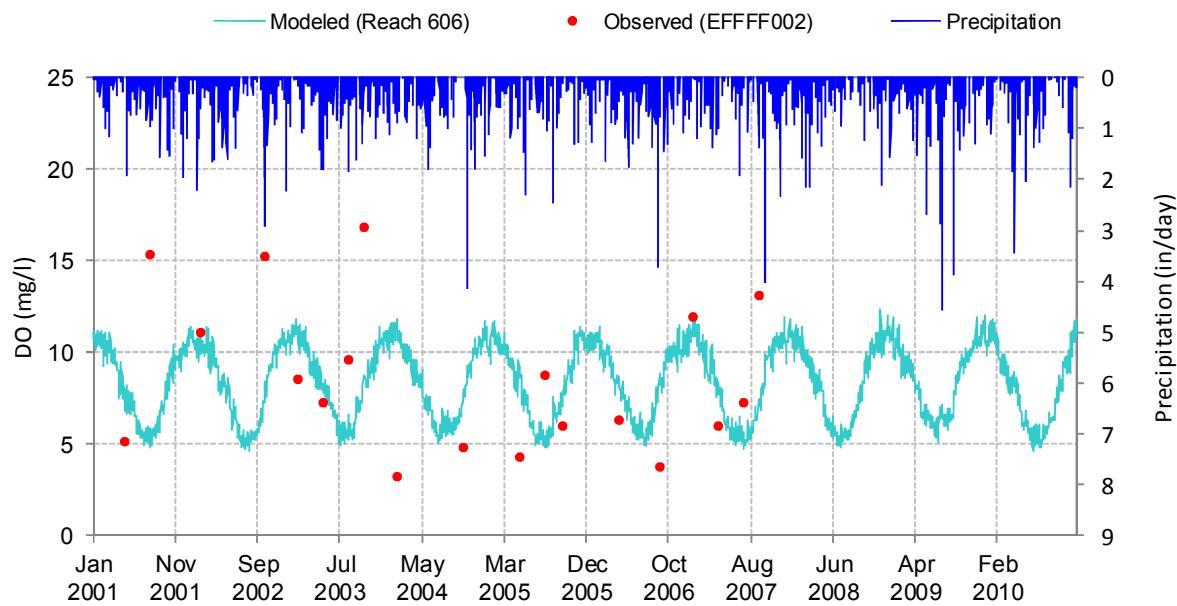


Figure B-272 Modeled vs. Observed DO (mg/l) at EFFFF002

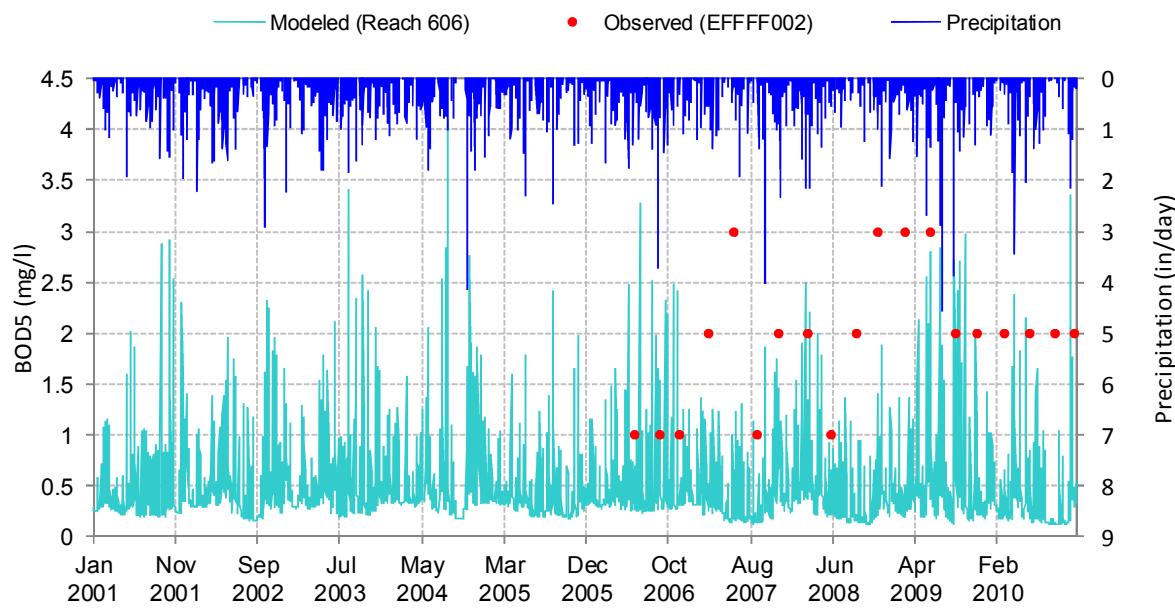


Figure B-273 Modeled vs. Observed BOD5 (mg/l) at EFFFF002

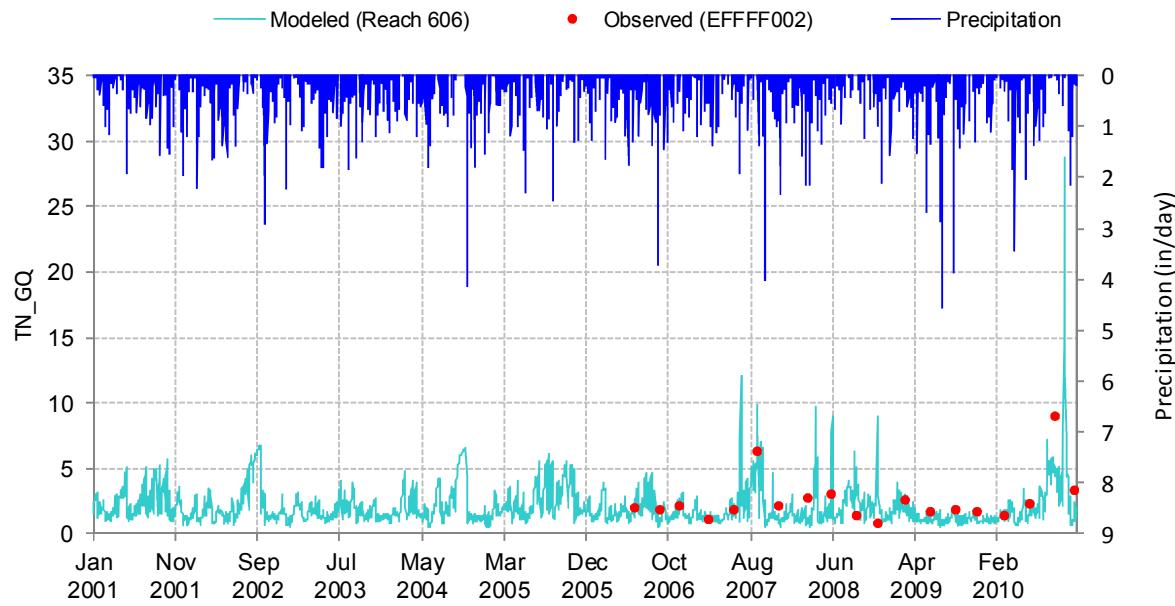


Figure B-274 Modeled vs. Observed TN_GQ at EFFFF002

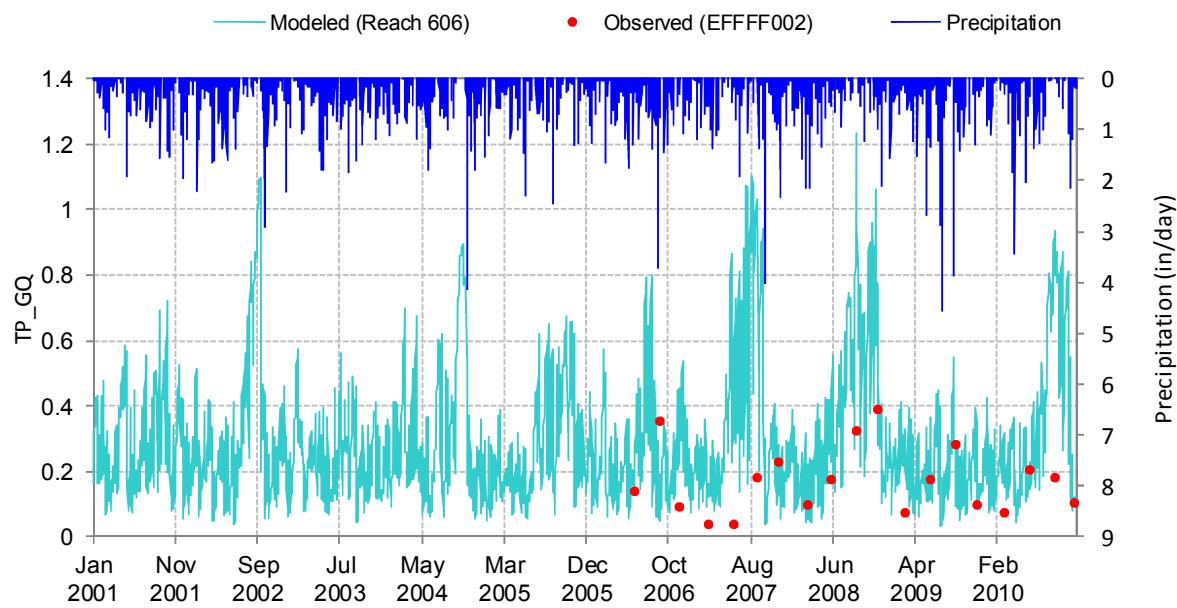


Figure B-275 Modeled vs. Observed TP_GQ at EFFFF002

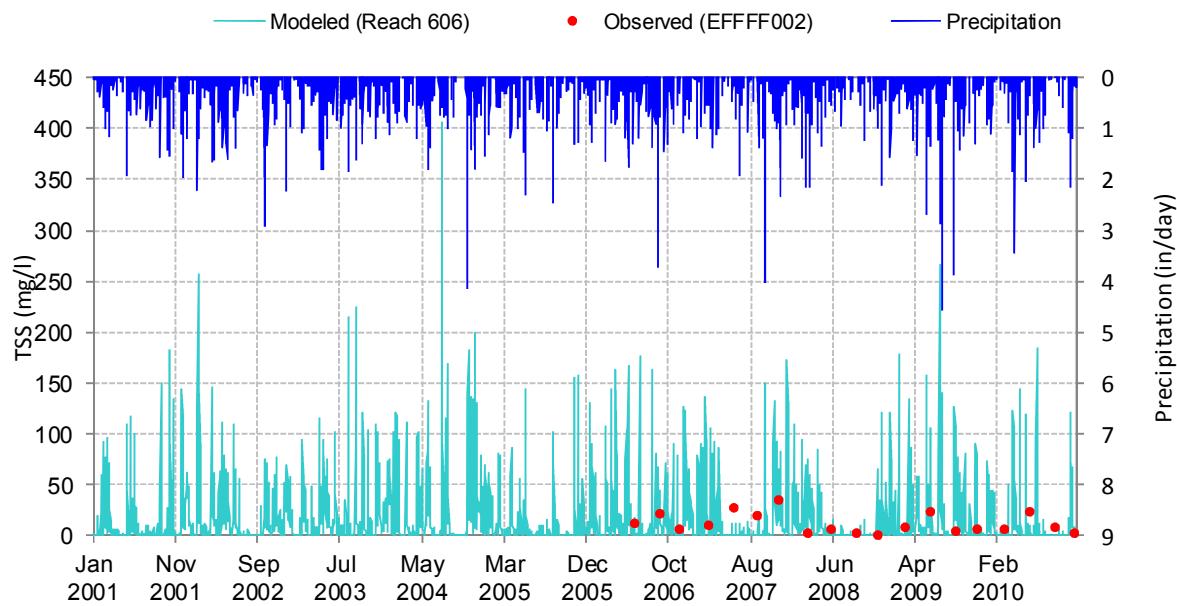


Figure B-276 Modeled vs. Observed TSS (mg/l) at EFFFF002

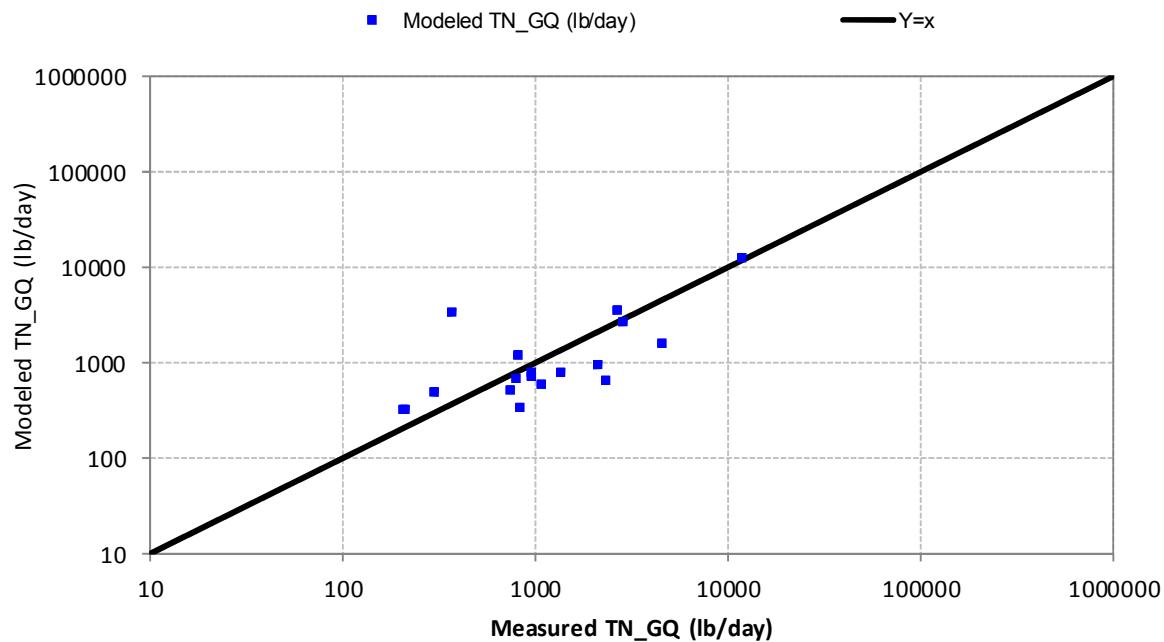


Figure B-277 Modeled vs. Observed Load TN_GQ at EFFFF002

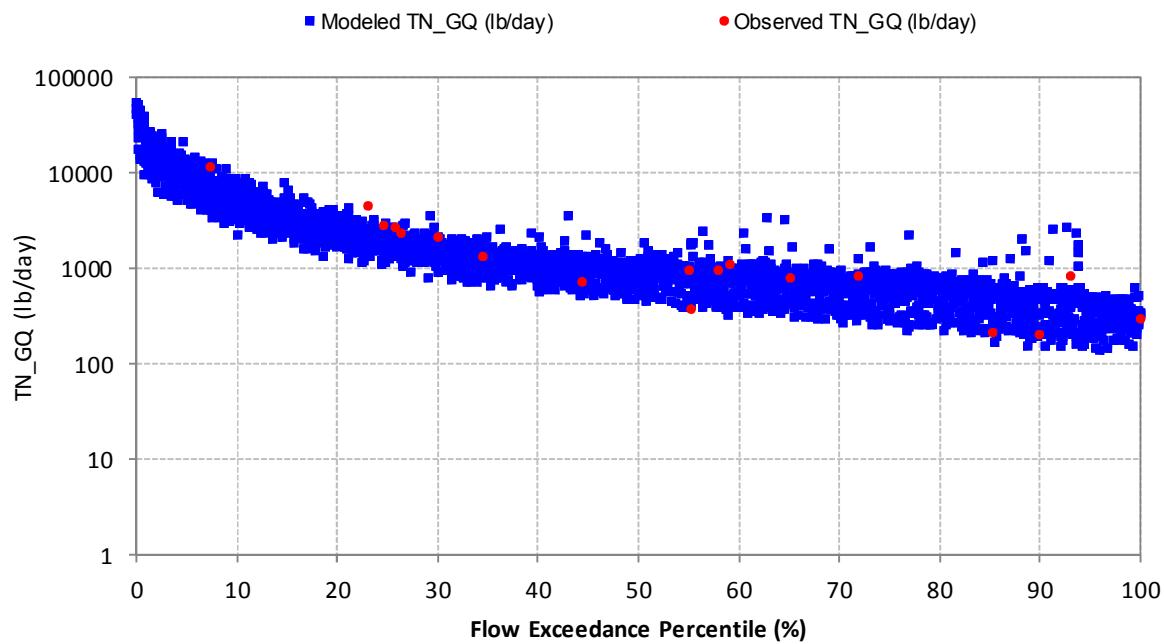


Figure B-278 Modeled vs. Observed Load TN_GQ at EFFFF002

Table B-56 Modeled vs. Observed Load TN_GQ at EFFFF002

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	961,103	1,560,446	-38.41	1,550,500	-38.01	
2007	647,354	1,831,484	-64.65	1,374,520	-52.9	
2008	822,154	1,802,045	-54.38	1,981,608	-58.51	
2009	847,262	1,299,835	-34.82	1,344,397	-36.98	

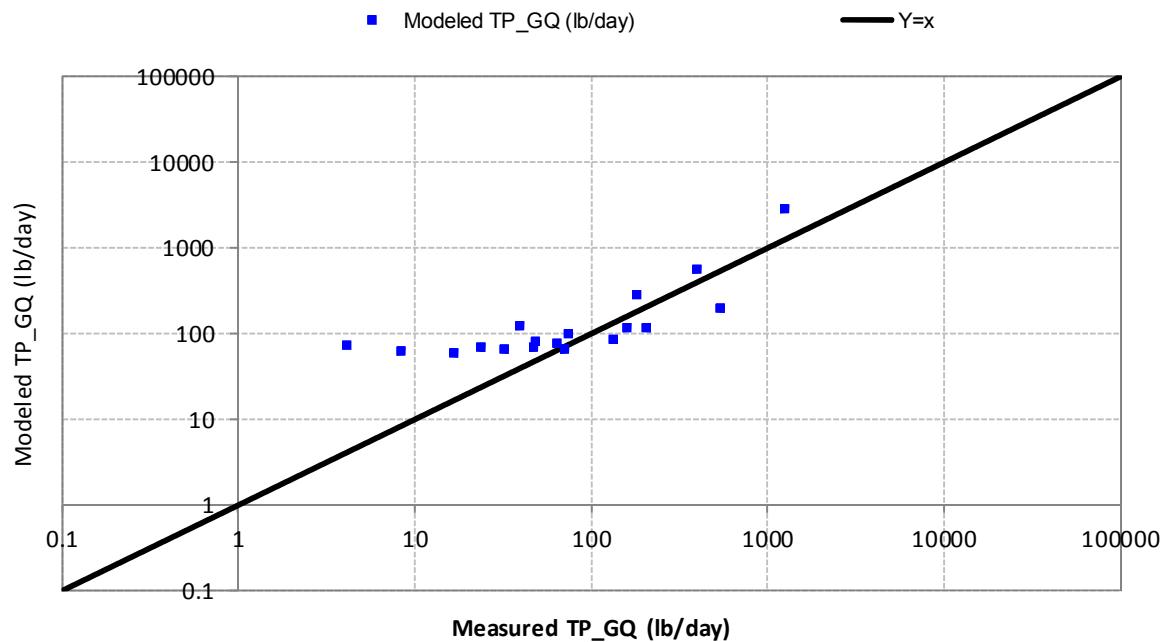


Figure B-279 Modeled vs. Observed Load TP_GQ at EFFFF002

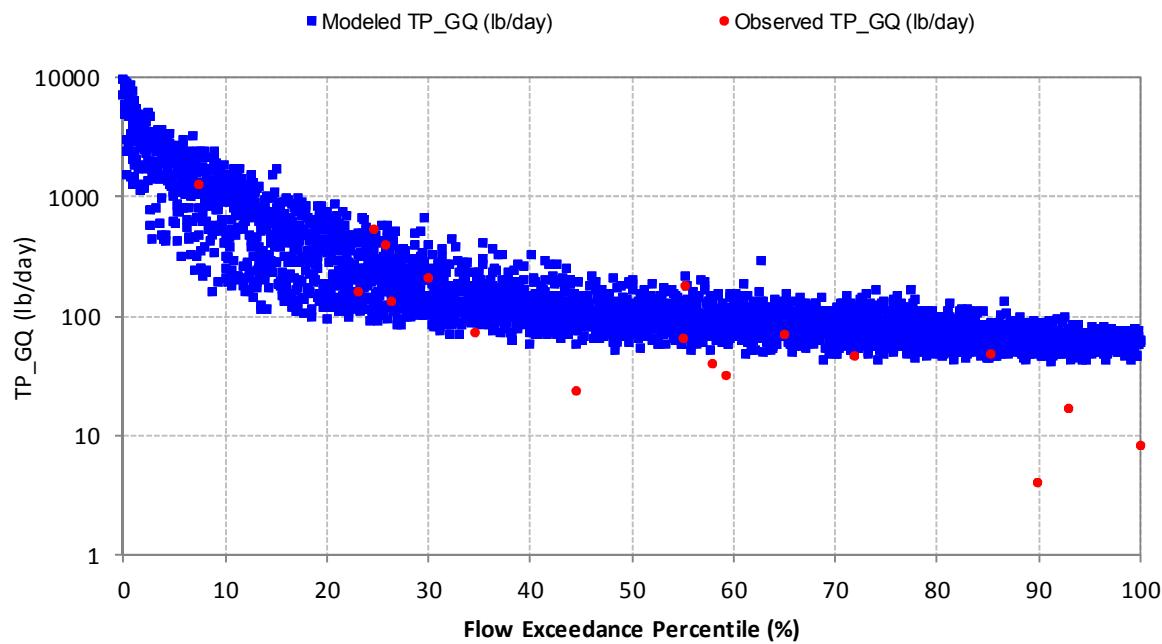


Figure B-280 Modeled vs. Observed Load TP_GQ at EFFFF002

Table B-57 Modeled vs. Observed Load TP_GQ at EFFFF002

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	156,788	134,568	16.51	148,006	5.93
2007	110,425	77,033	43.35	74,011	49.2
2008	135,312	139,315	-2.87	112,032	20.78
2009	143,362	147,814	-3.01	126,092	13.7

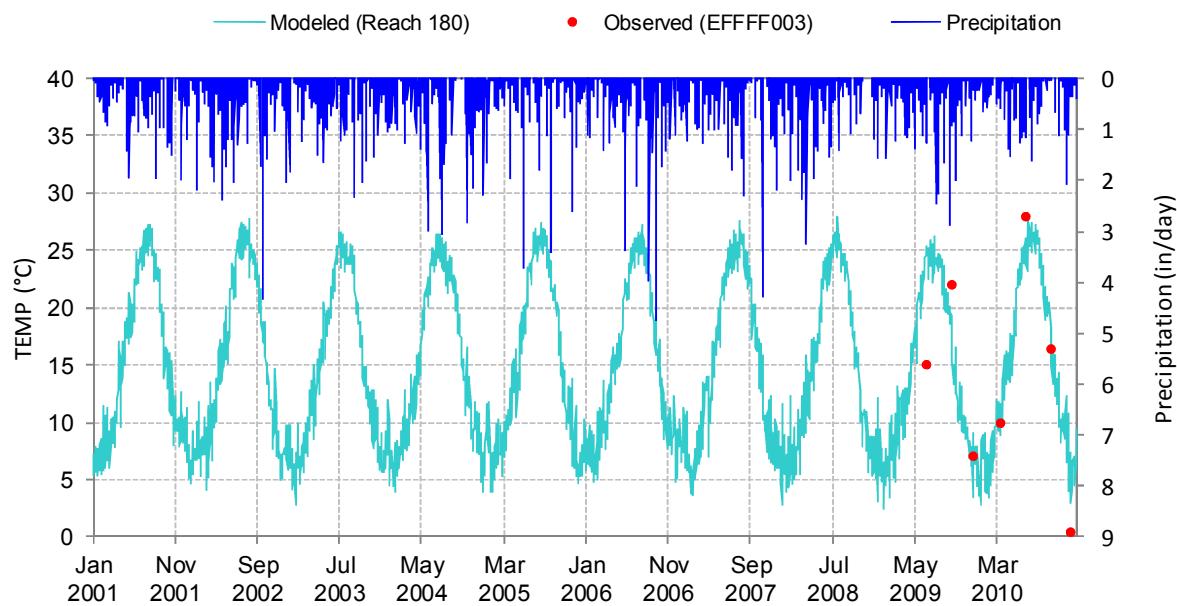


Figure B-281 Modeled vs. Observed TEMP (°C) at EFFFF003

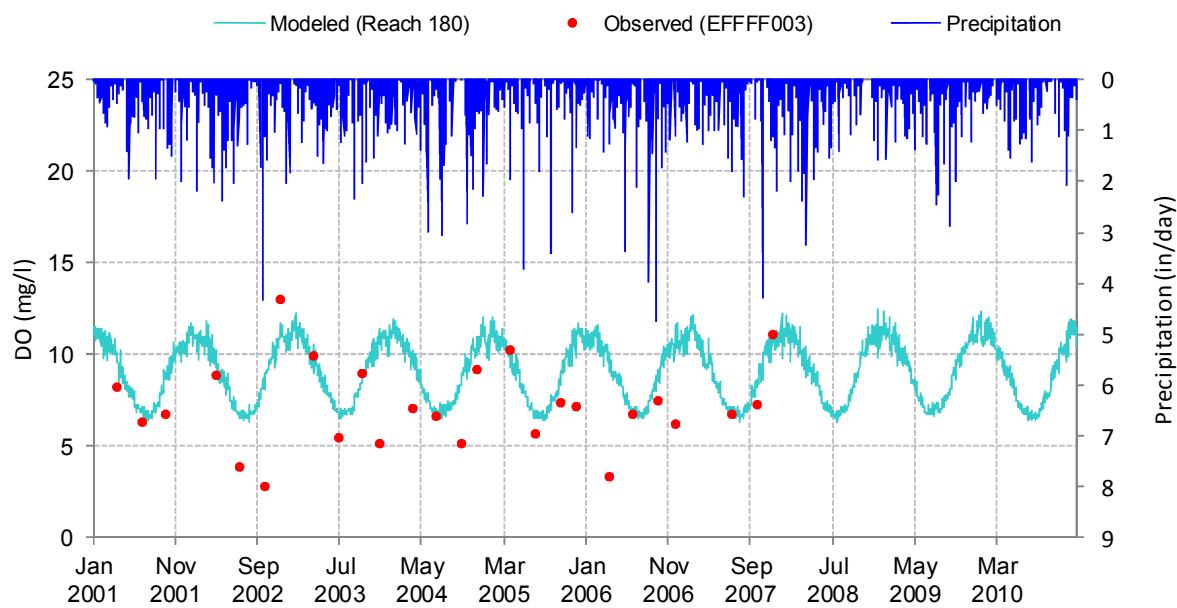


Figure B-282 Modeled vs. Observed DO (mg/l) at EFFFF003

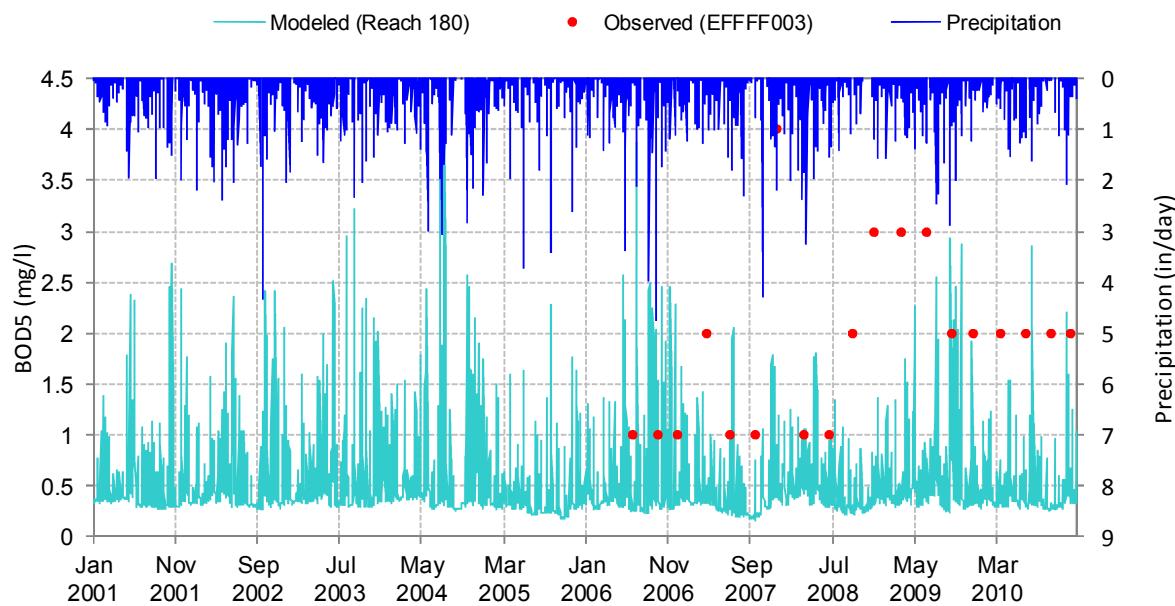


Figure B-283 Modeled vs. Observed BOD5 (mg/l) at EFFFF003

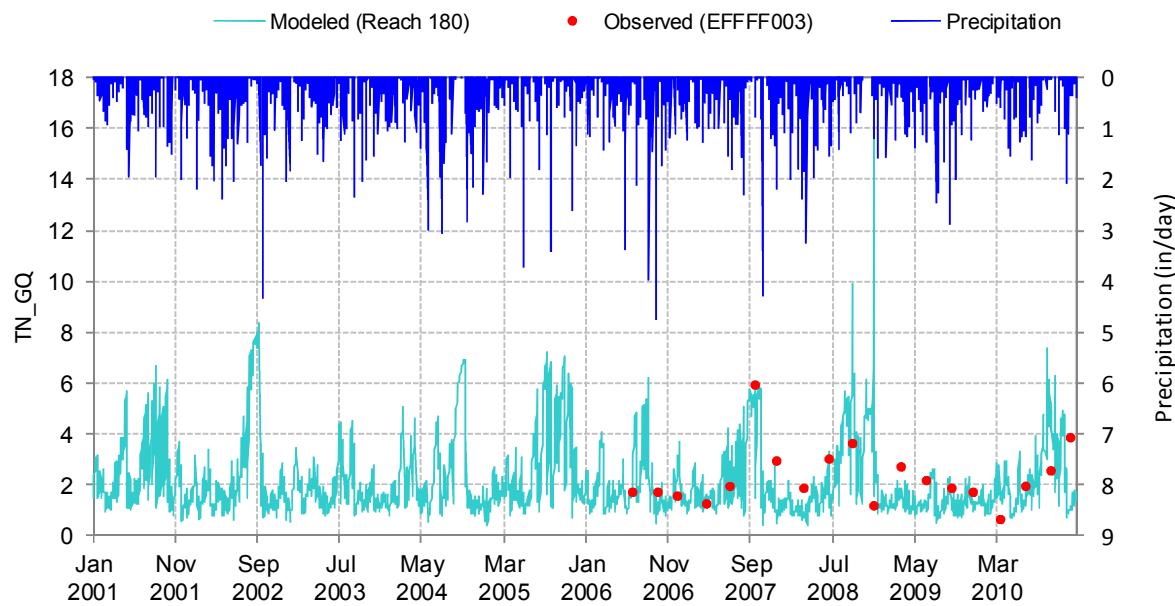


Figure B-284 Modeled vs. Observed TN_GQ at EFFFF003

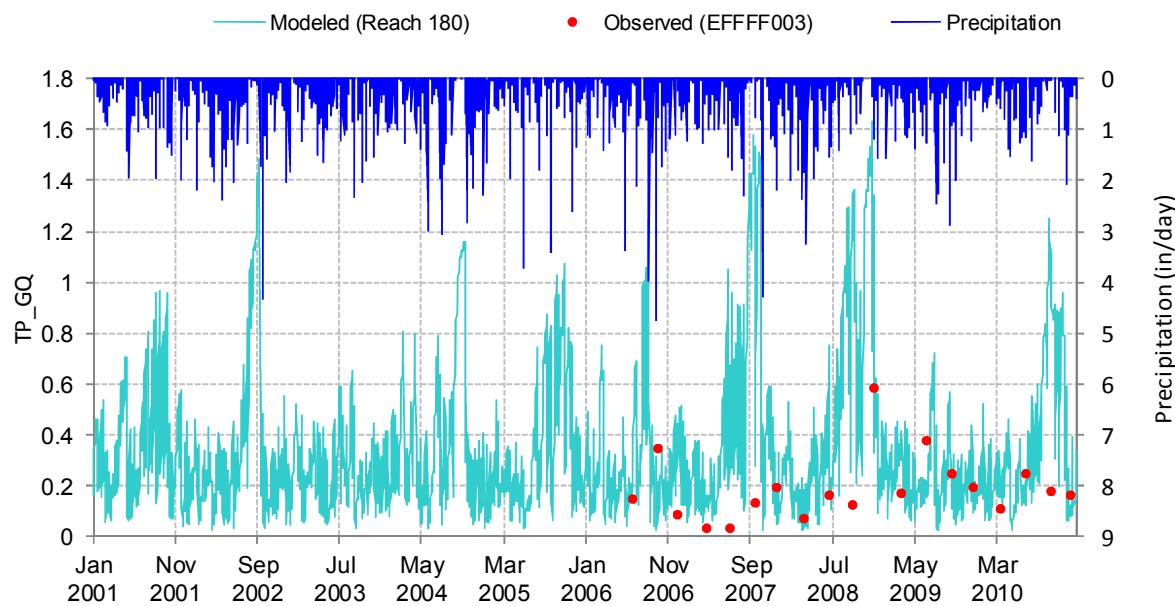


Figure B-285 Modeled vs. Observed TP_GQ at EFFFF003

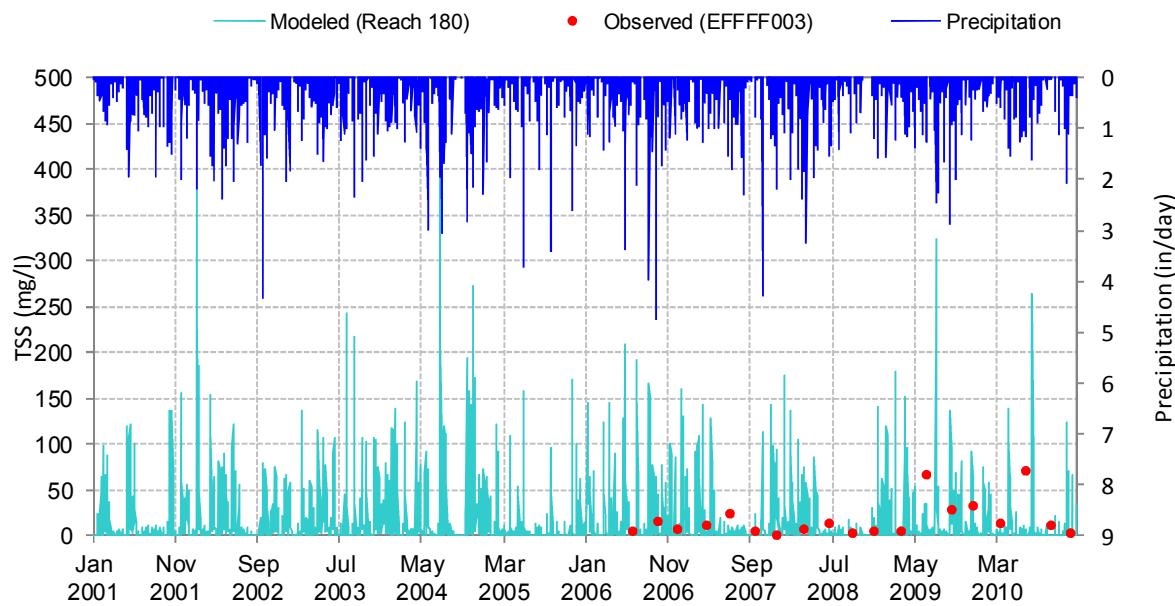


Figure B-286 Modeled vs. Observed TSS (mg/l) at EFFFF003

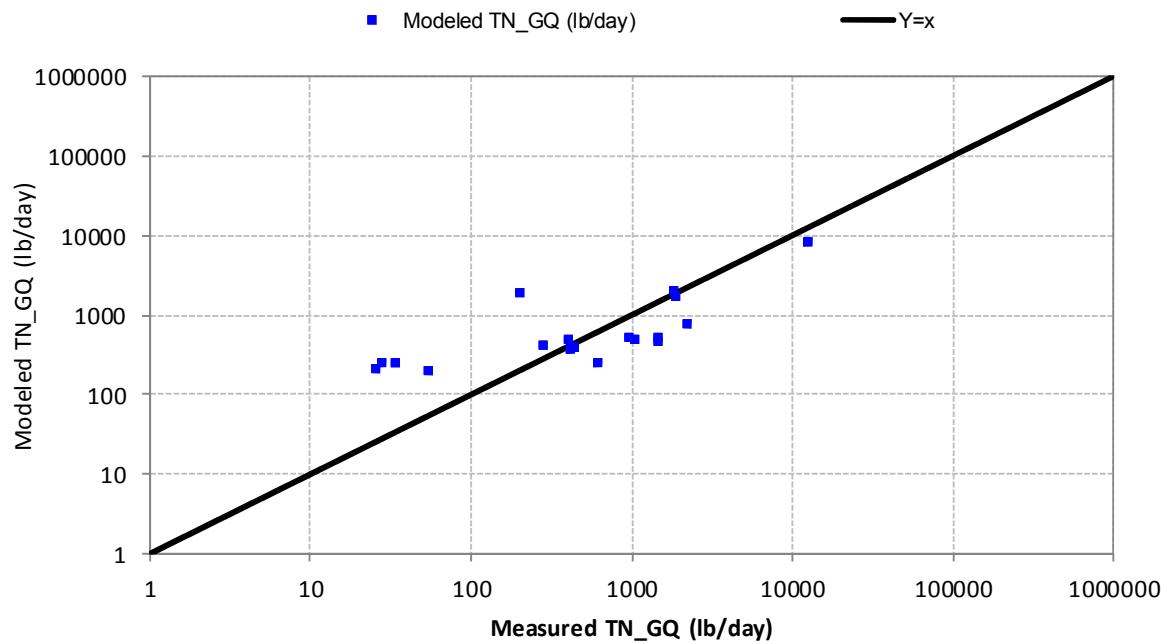


Figure B-287 Modeled vs. Observed Load TN_GQ at EFFFF003

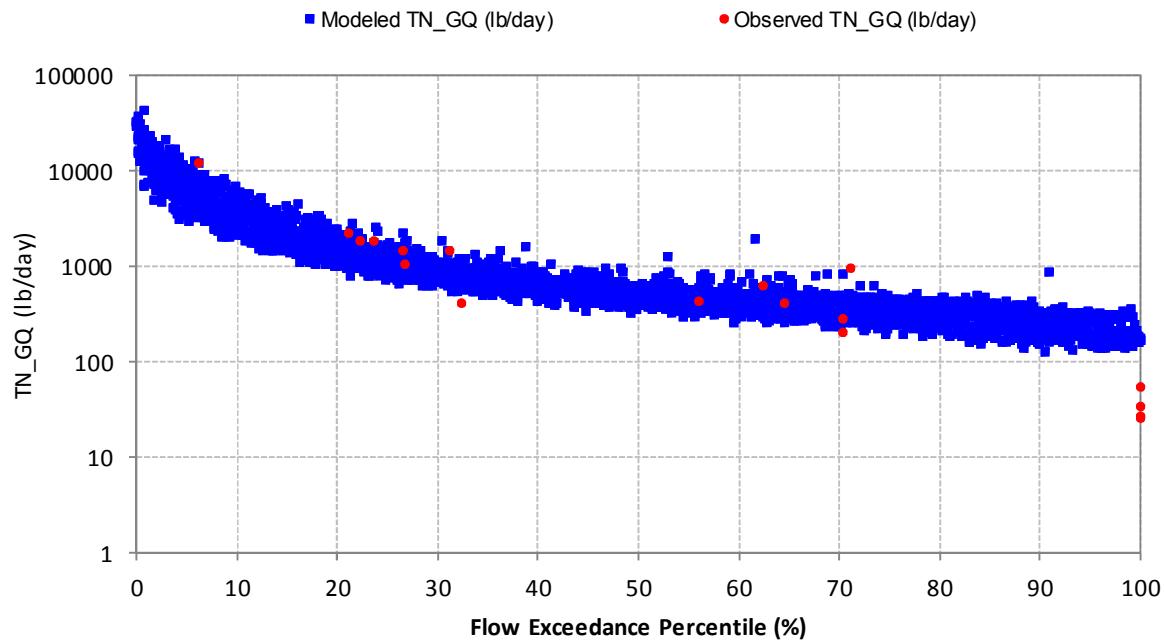


Figure B-288 Modeled vs. Observed Load TN_GQ at EFFFF003

Table B-58 Modeled vs. Observed Load TN_GQ at EFFFF003

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	691,050	881,507	-21.61	876,540	-21.16	
2007	482,163	1,157,079	-58.33	980,283	-50.81	
2008	524,745	1,245,491	-57.87	1,118,682	-53.09	
2009	565,616	1,032,744	-45.23	1,053,743	-46.32	
2010	312,516	398,462	-21.57	450,669	-30.66	

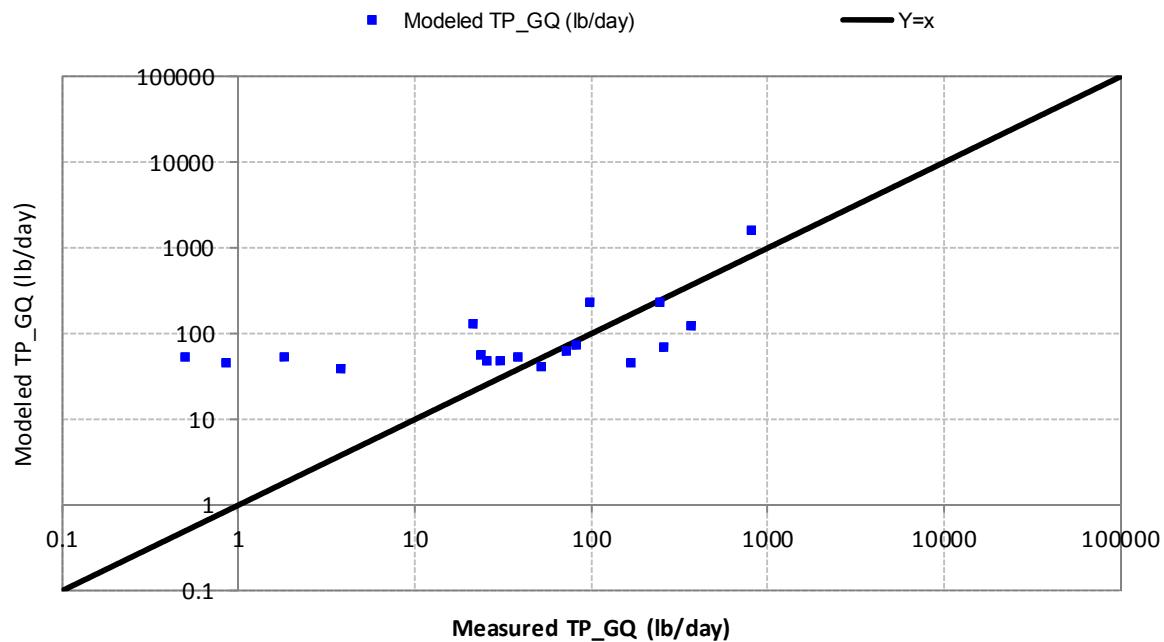


Figure B-289 Modeled vs. Observed Load TP_GQ at EFFFF003

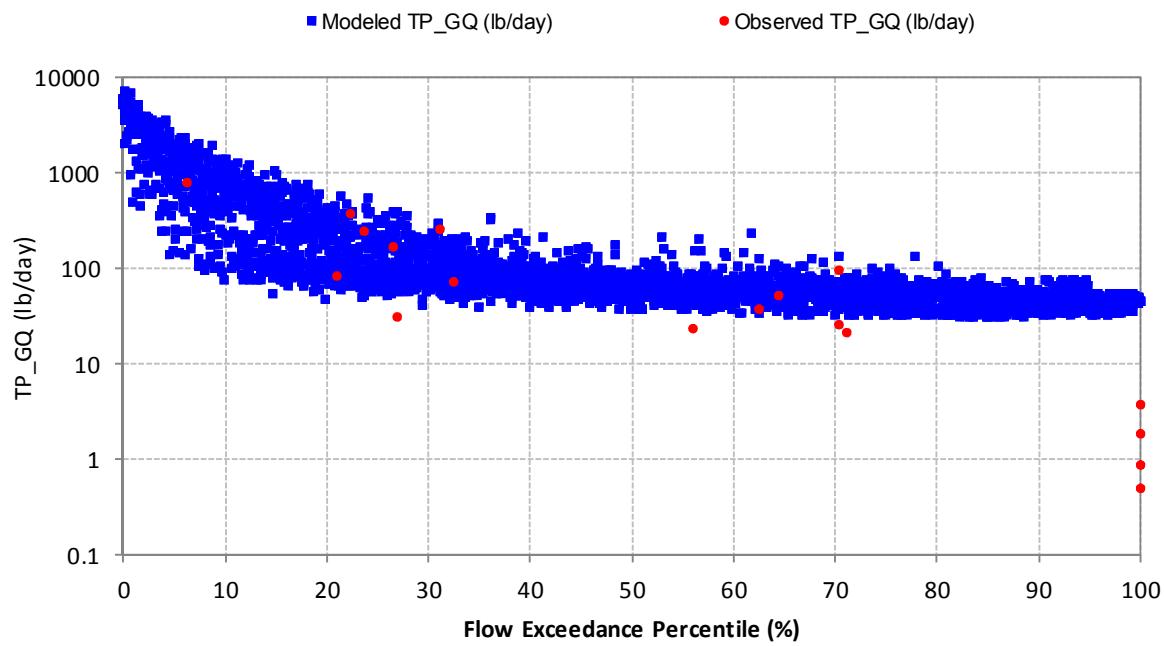


Figure B-290 Modeled vs. Observed Load TP_GQ at EFFFF003

Table B-59 Modeled vs. Observed Load TP_GQ at EFFFF003

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	113,456	95,320	19.03	101,892	11.35
2007	83,010	44,089	88.28	42,897	93.51
2008	94,483	81,308	16.2	63,412	49
2009	98,236	156,880	-37.38	137,908	-28.77
2010	54,087	45,418	19.09	48,541	11.43

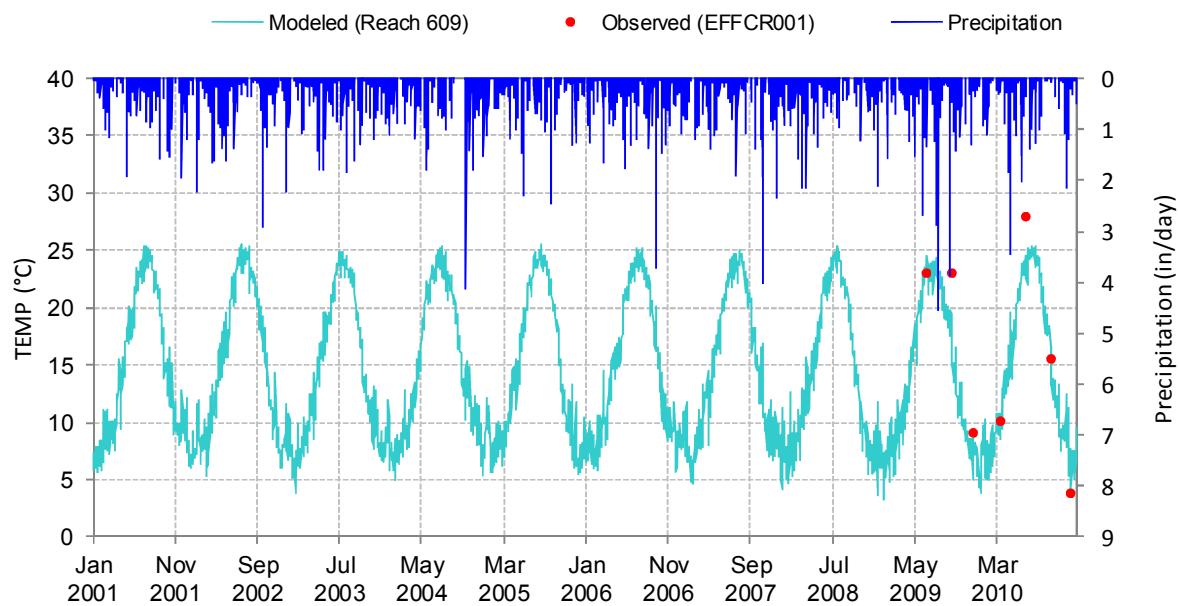


Figure B-291 Modeled vs. Observed TEMP (°C) at EFFCR001

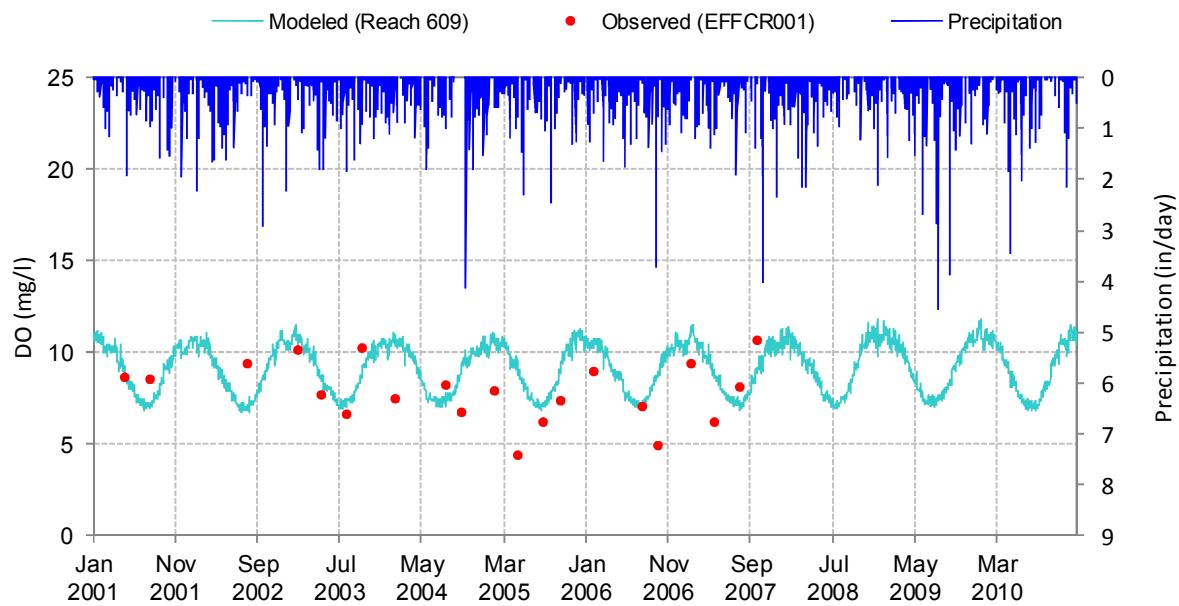


Figure B-292 Modeled vs. Observed DO (mg/l) at EFFCR001

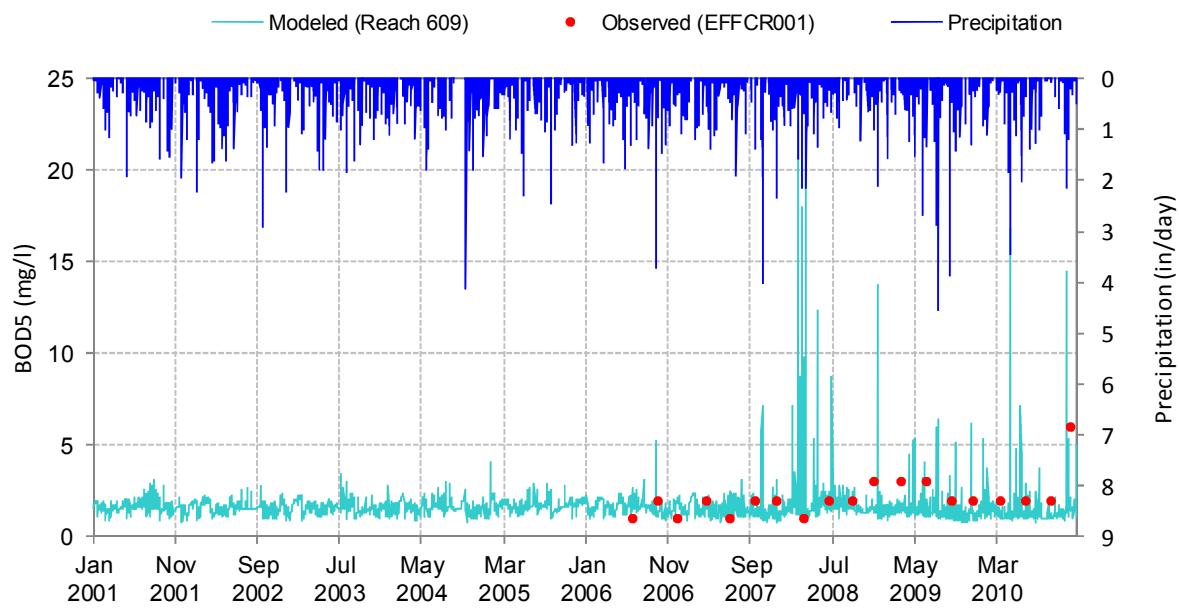


Figure B-293 Modeled vs. Observed BOD5 (mg/l) at EFFCR001

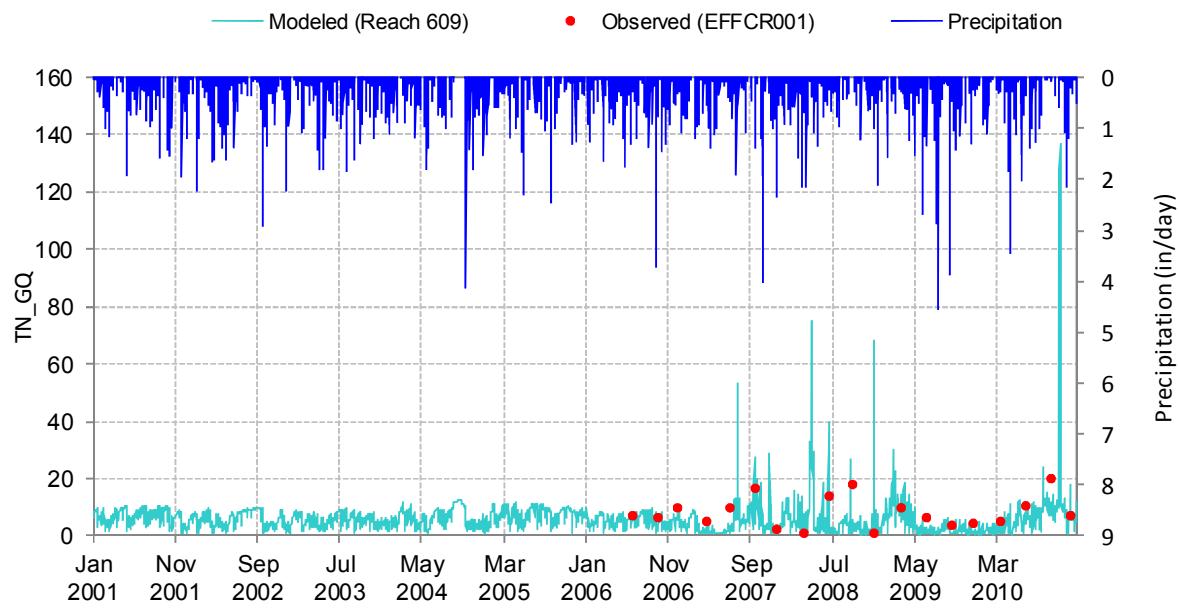


Figure B-294 Modeled vs. Observed TN_GQ at EFFCR001

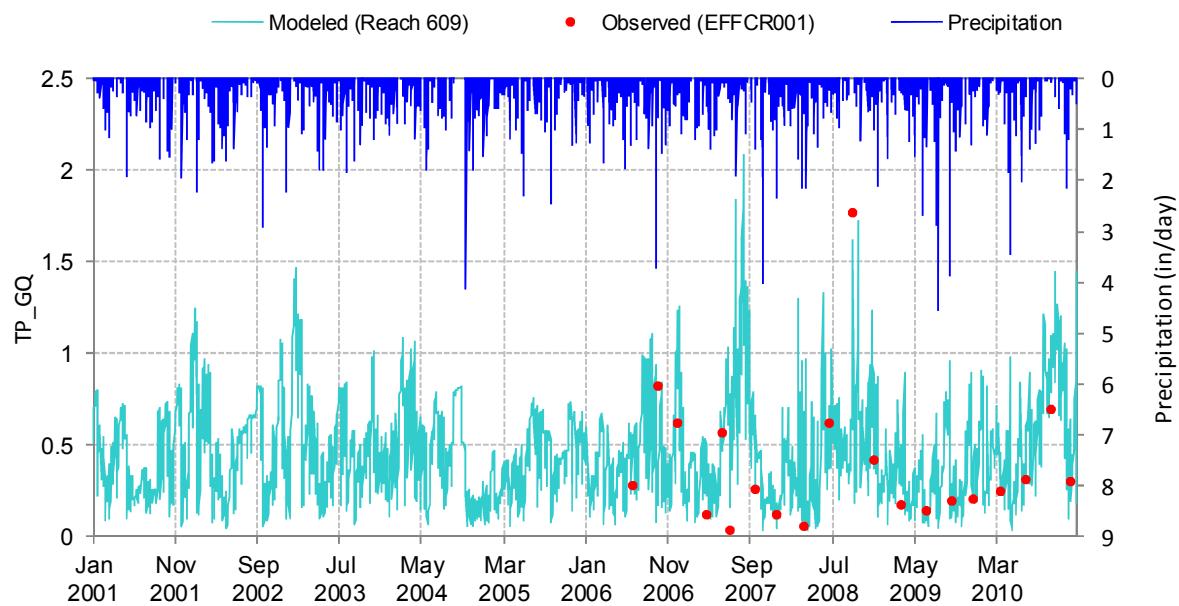


Figure B-295 Modeled vs. Observed TP_GQ at EFFCR001

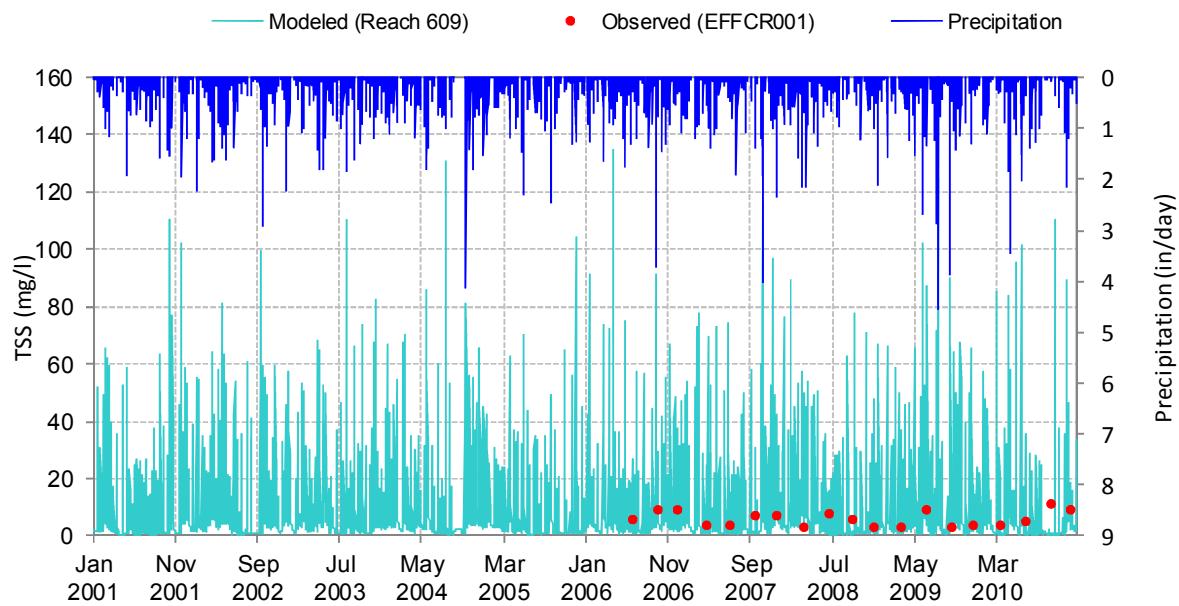


Figure B-296 Modeled vs. Observed TSS (mg/l) at EFFCR001

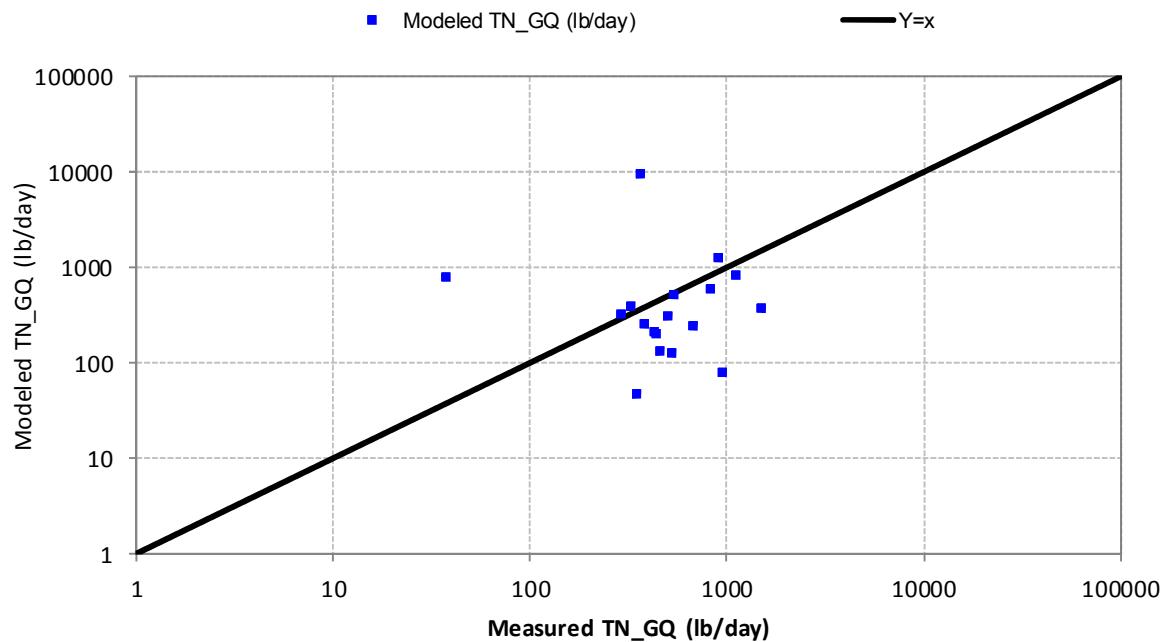


Figure B-297 Modeled vs. Observed Load TN_GQ at EFFCR001

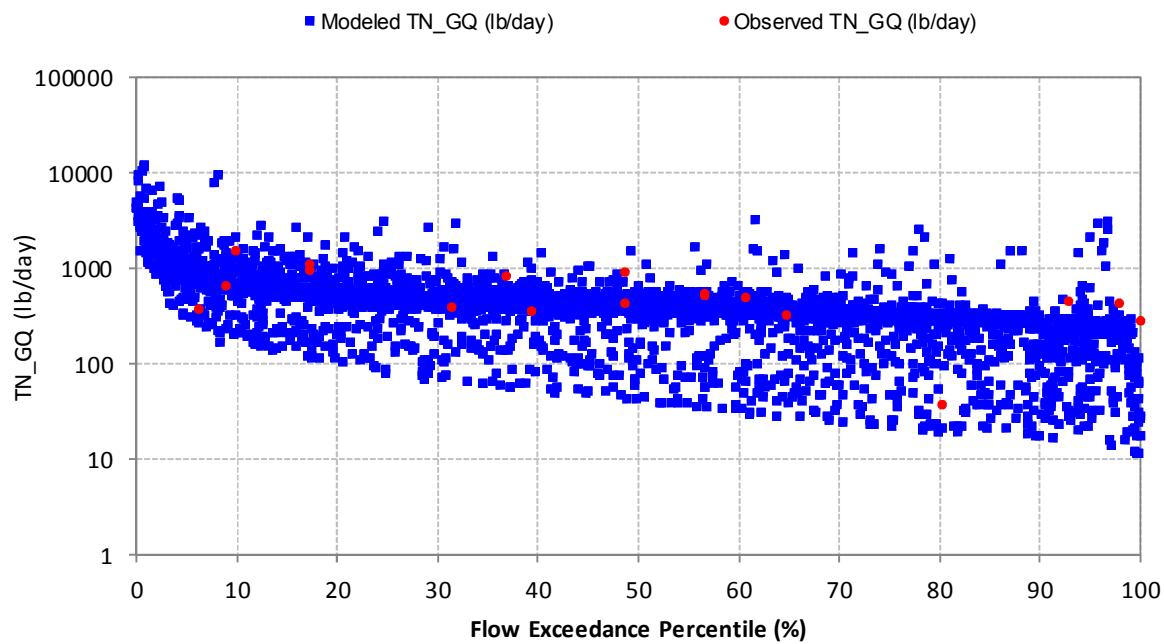


Figure B-298 Modeled vs. Observed Load TN_GQ at EFFCR001

Table B-60 Modeled vs. Observed Load TN_GQ at EFFCR001

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2006	205,507	446,026	-53.92	450,969	-54.43	
2007	135,438	539,661	-74.9	417,142	-67.53	
2008	242,929	268,601	-9.56	351,971	-30.98	
2009	155,275	300,637	-48.35	317,338	-51.07	
2010	145,996	332,179	-56.05	356,227	-59.02	

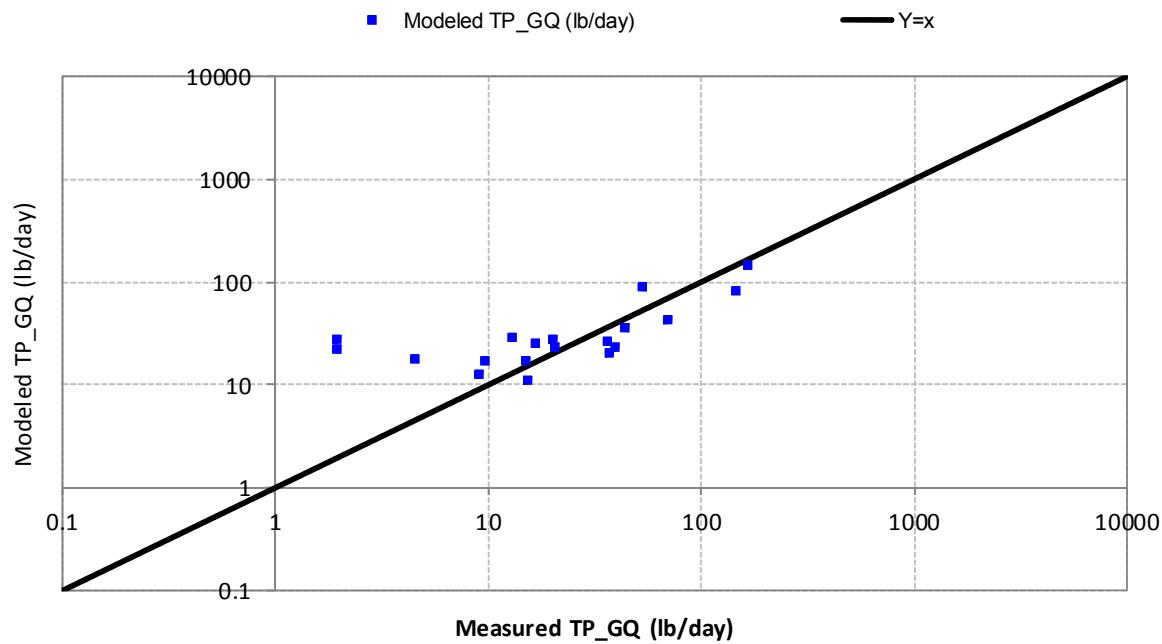


Figure B-299 Modeled vs. Observed Load TP_GQ at EFFCR001

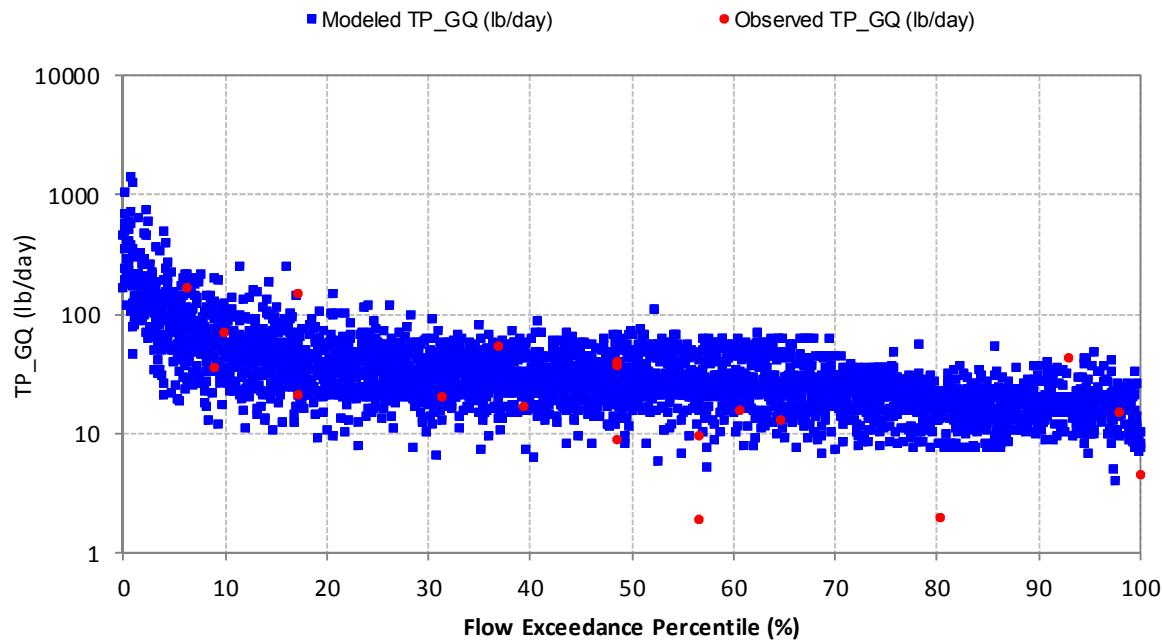


Figure B-300 Modeled vs. Observed Load TP_GQ at EFFCR001

Table B-61 Modeled vs. Observed Load TP_GQ at EFFCR001

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2006	17,540	25,393	-30.92	31,437	-44.2
2007	12,142	18,746	-35.23	13,827	-12.19
2008	16,655	17,437	-4.48	21,867	-23.84
2009	13,466	11,839	13.75	10,414	29.31
2010	14,706	13,098	12.27	13,375	9.94

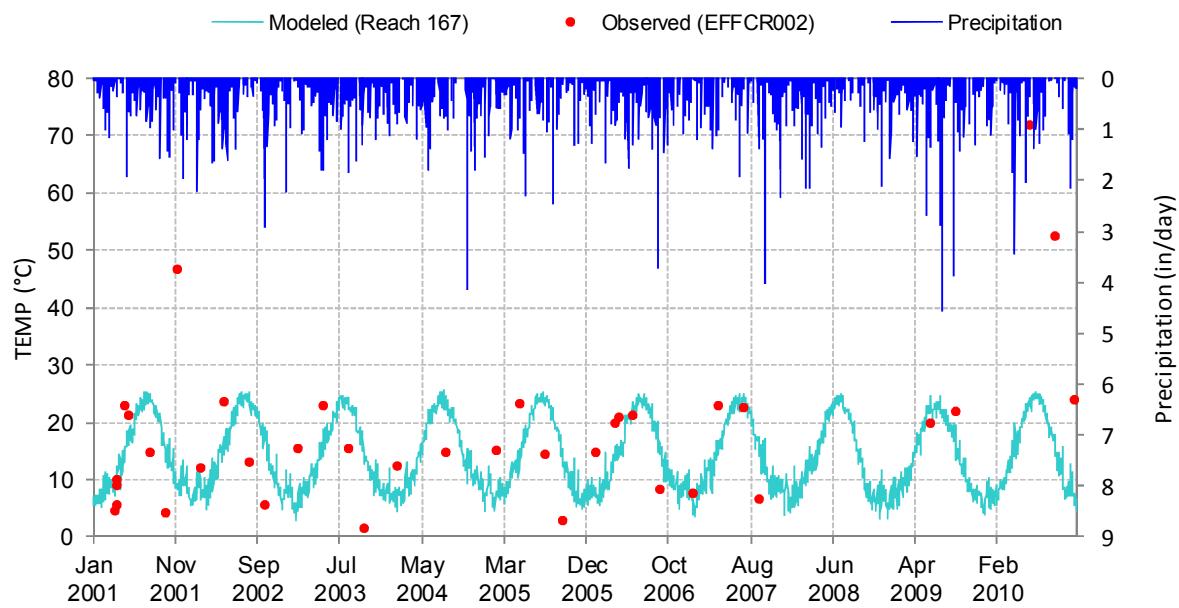


Figure B-301 Modeled vs. Observed TEMP (°C) at EFFCR002

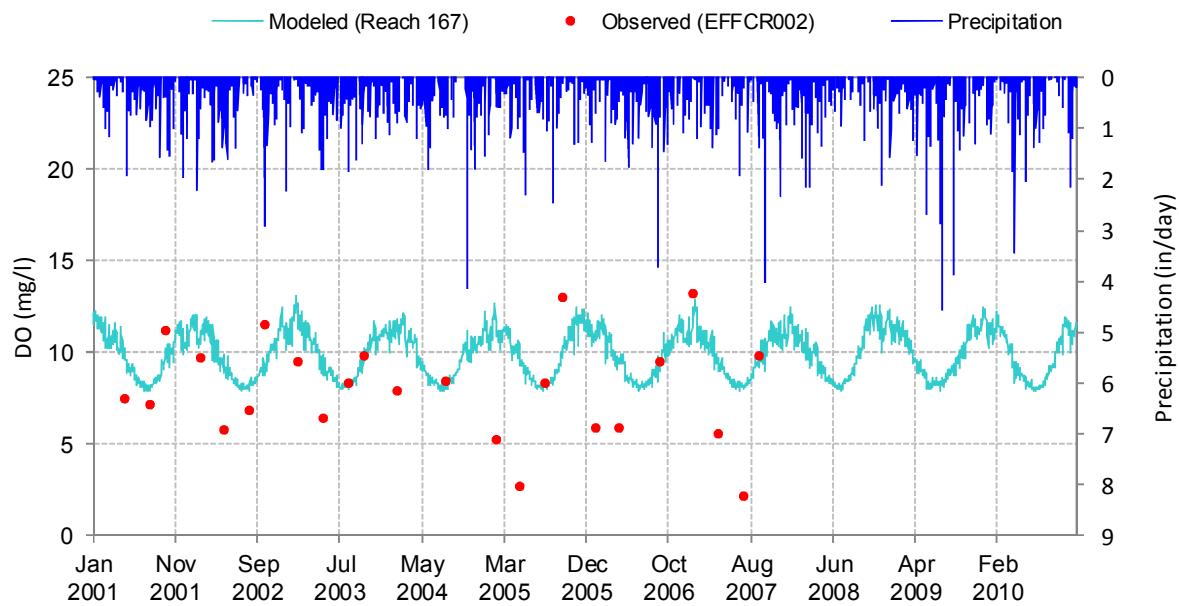


Figure B-302 Modeled vs. Observed DO (mg/l) at EFFCR002

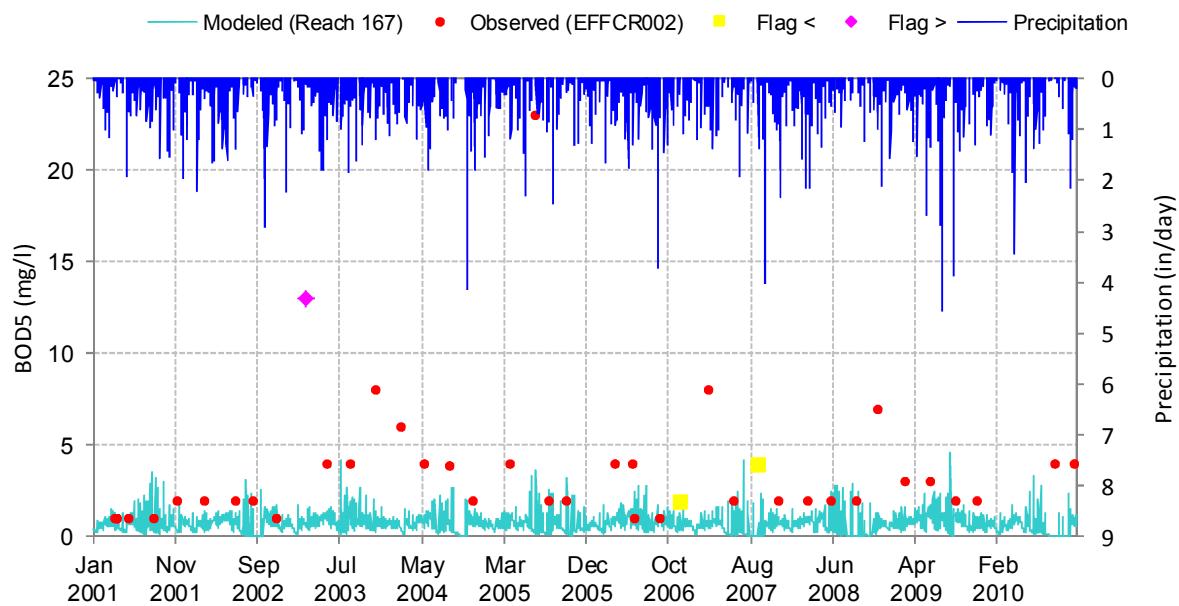


Figure B-303 Modeled vs. Observed BOD5 (mg/l) at EFFCR002

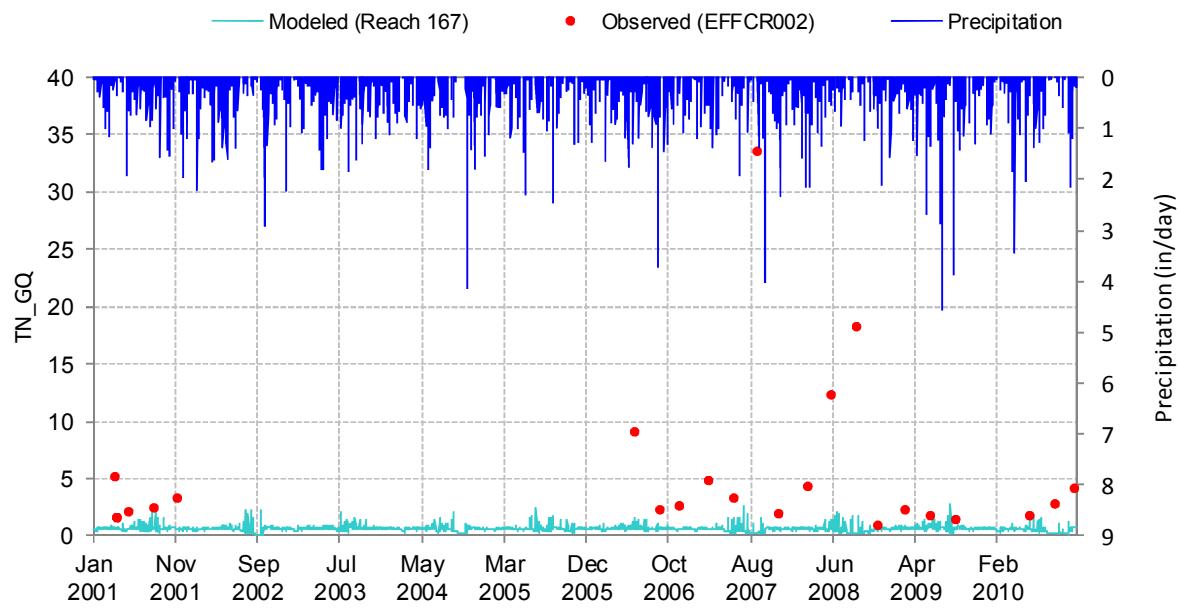


Figure B-304 Modeled vs. Observed TN_GQ at EFFCR002

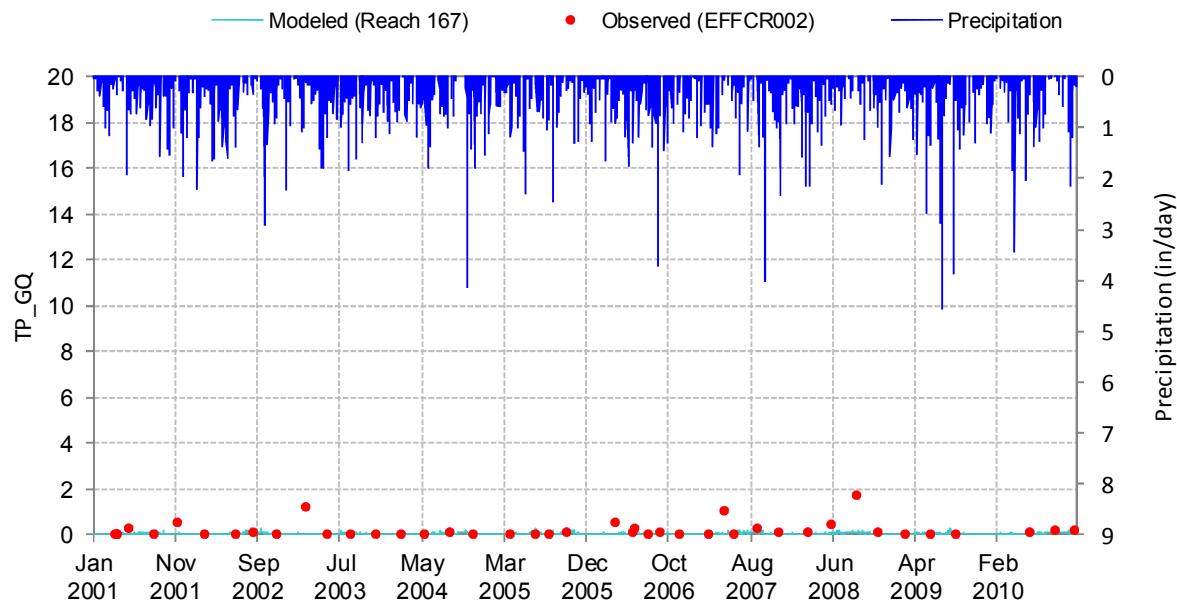


Figure B-305 Modeled vs. Observed TP_GQ at EFFCR002

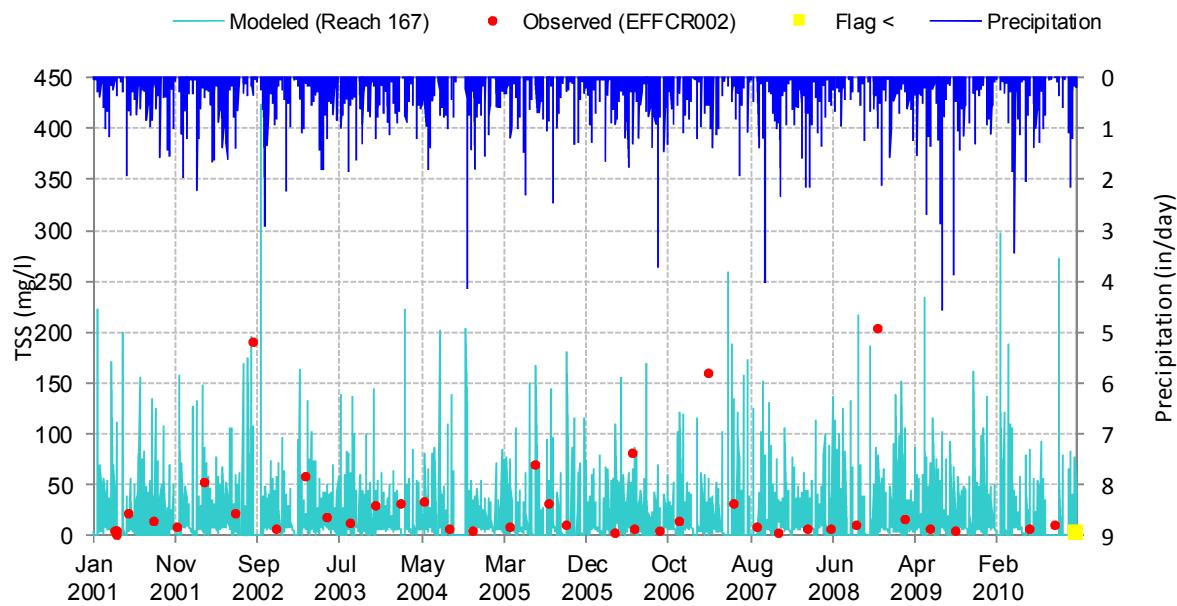


Figure B-306 Modeled vs. Observed TSS (mg/l) at EFFCR002

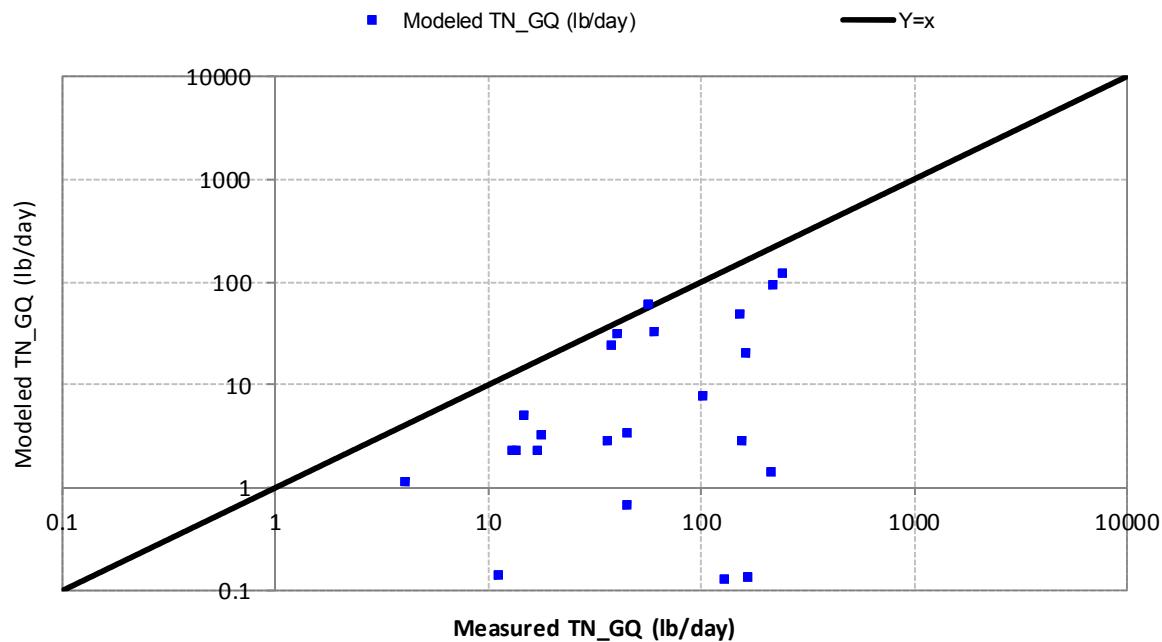


Figure B-307 Modeled vs. Observed Load TN_GQ at EFFCR002

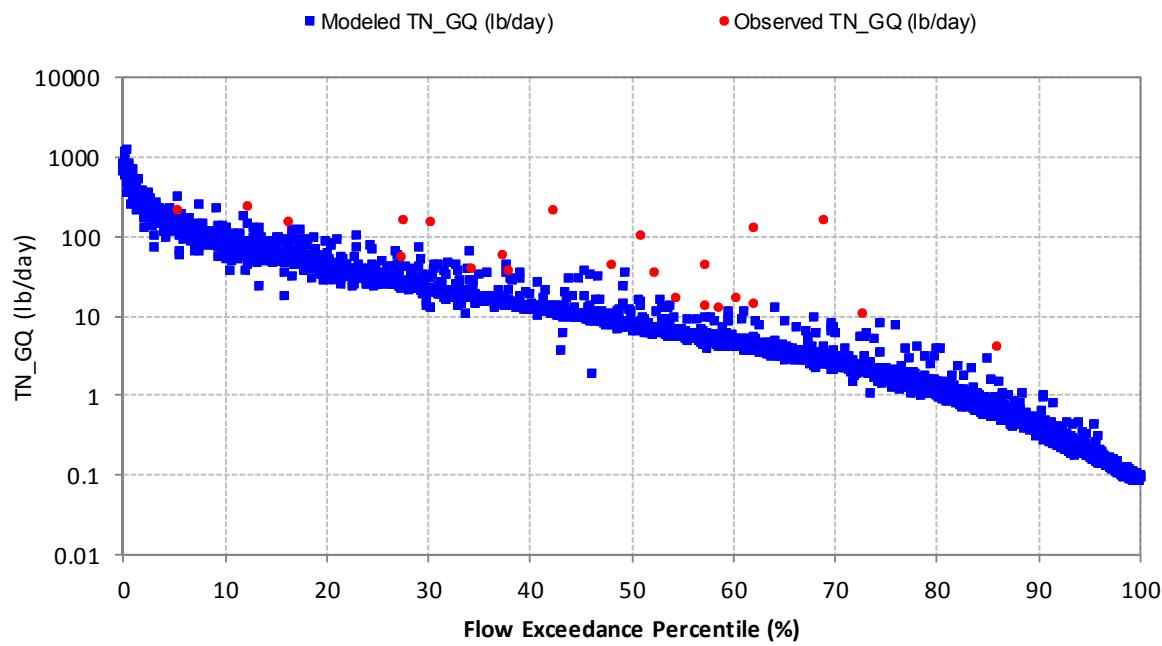


Figure B-308 Modeled vs. Observed Load TN_GQ at EFFCR002

Table B-62 Modeled vs. Observed Load TN_GQ at EFFCR002

Year	Simulated		Measured Stepwise		Measured Interpolation	
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error	
2001	10,075	39,161	-74.27	49,620	-79.7	
2006	14,164	124,203	-88.6	144,091	-90.17	
2007	10,651	214,398	-95.03	151,334	-92.96	
2008	12,084	119,864	-89.92	151,013	-92	
2009	16,735	34,552	-51.57	34,958	-52.13	

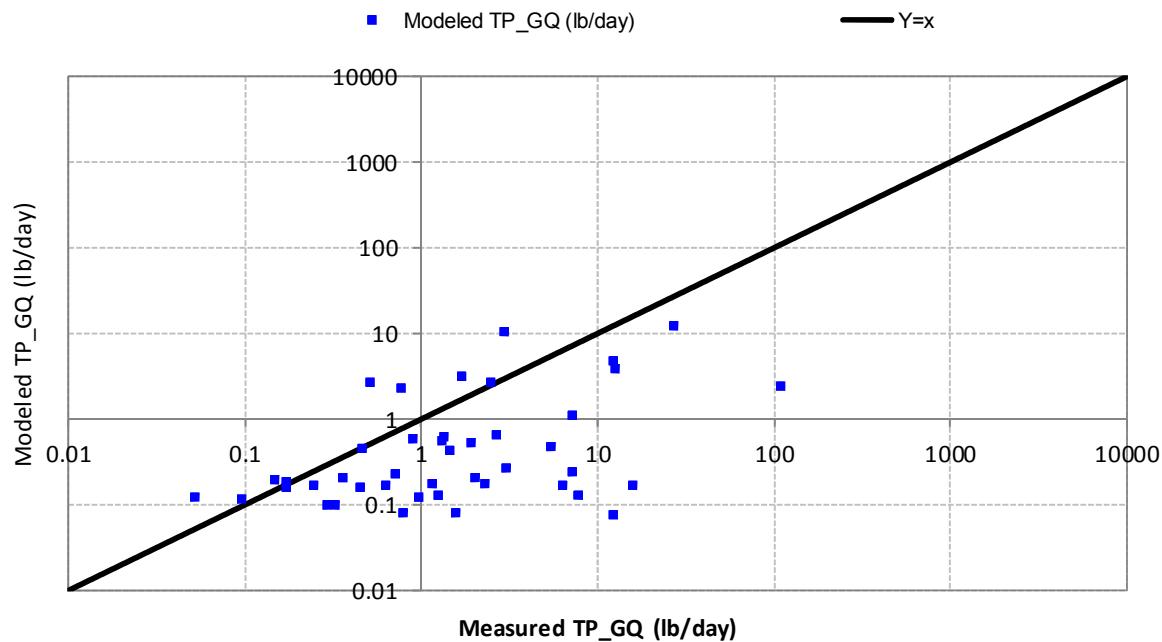


Figure B-309 Modeled vs. Observed Load TP_GQ at EFFCR002

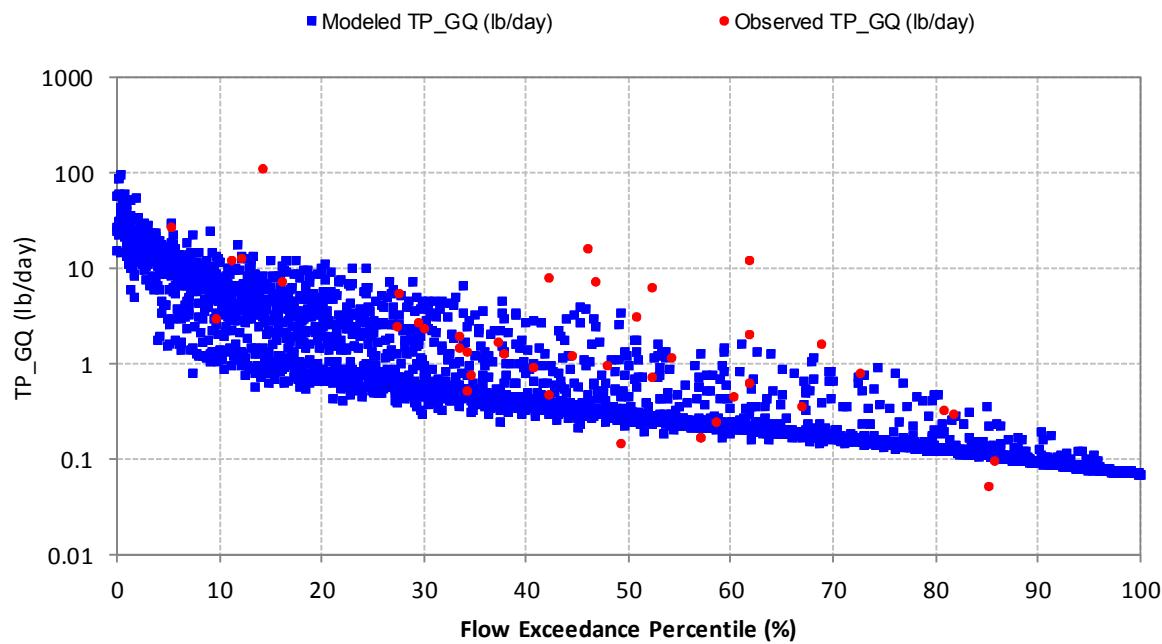


Figure B-310 Modeled vs. Observed Load TP_GQ at EFFCR002

Table B-63 Modeled vs. Observed Load TP_GQ at EFFCR002

Year	Simulated	Measured Stepwise	Measured Interpolation		
	(lb/yr)	(lb/yr)	% Error	(lb/yr)	% Error
2001	695	4,590	-84.85	4,476	-84.47
2002	890	3,325	-73.24	3,735	-76.18
2003	829	8,485	-90.23	7,512	-88.97
2004	952	1,467	-35.08	1,357	-29.8
2005	662	584	13.44	808	-18.09
2006	861	4,700	-81.68	5,655	-84.78
2007	733	3,404	-78.46	3,966	-81.51
2008	727	6,248	-88.37	7,381	-90.15
2009	1,040	1,472	-29.33	1,393	-25.36

Table B-64 Summary Qualitative and Quantitative scores for the MSD Water Quality Validation stations

Water Quality Station location: Main Stem- Floyds Fork					
MSD Station ID	Station name	Qualitative Score		Quantitative Score	
		TN	TP	TN	TP
EFFFF001	Floyds Fork at Ash Avenue	VG	VG	19	21
EFFFF002	Floyds Fork at Bardstown Road	G	VG	50	10
EFFFF003	Floyds Fork at Old Taylorsville Road	G	VG	45	5
Water Quality Station location: Tributaries					
EFFCR001	Chenoweth Run # 1 at Gelhaus Lane	G	VG	53	25
EFFCR002	Chenoweth Run # 1 at Rickriegal Parkway	F	F	88	78

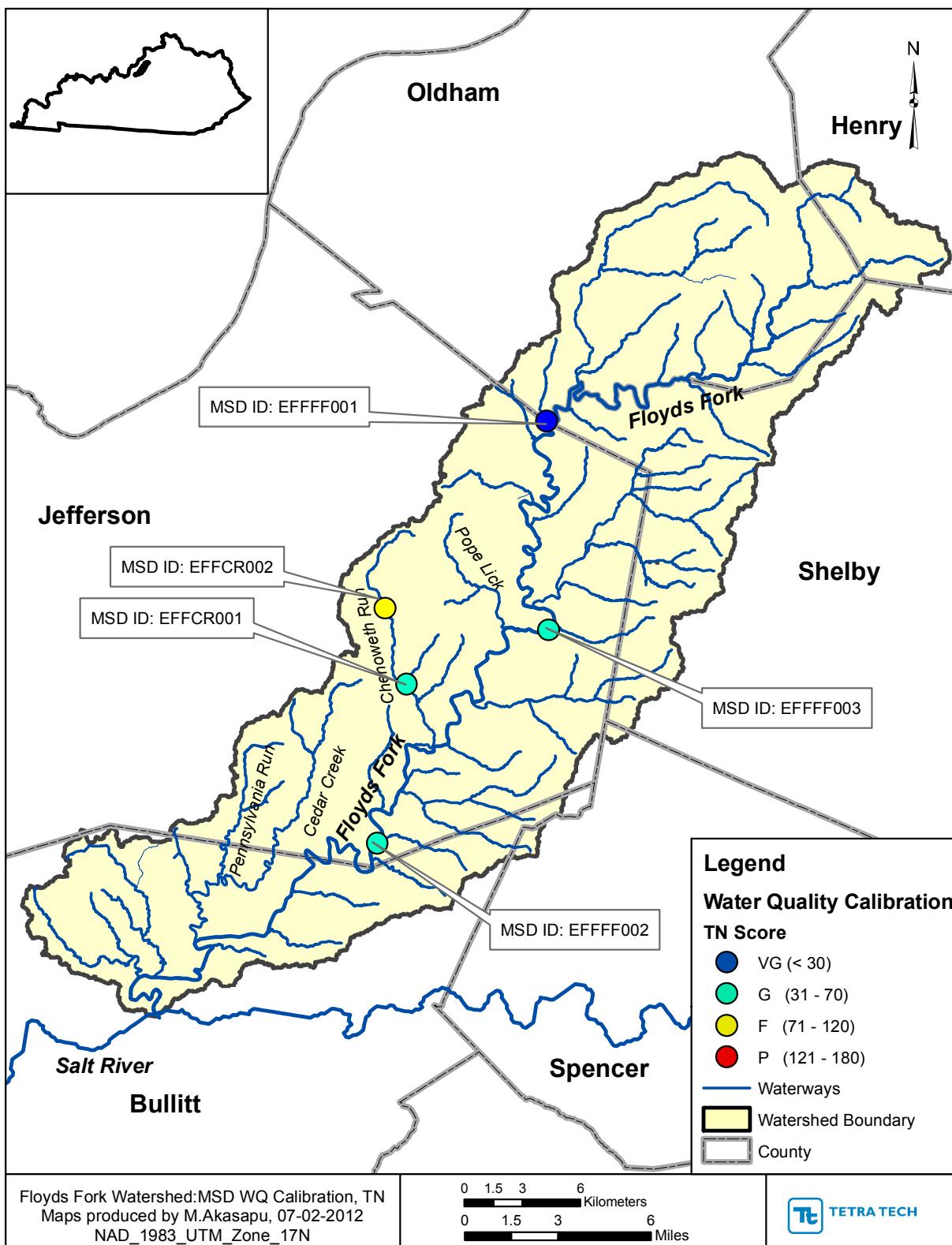


Figure B-311 MSD Water Quality for TN in the Floyds Fork Watershed

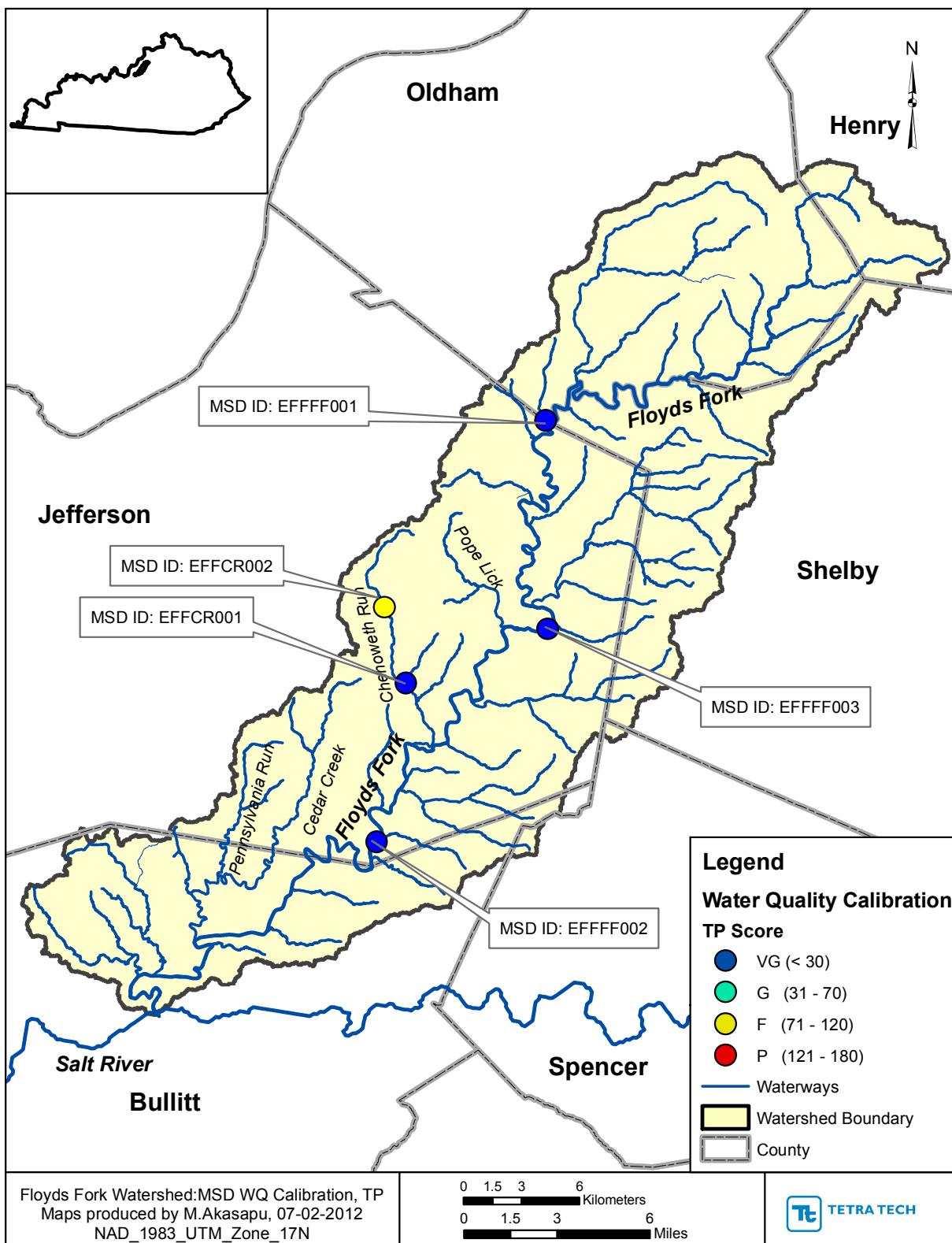


Figure B-312 MSD Water Quality for TP in the Floyds Fork Watershed